

# **EXHIBIT DX1**

TO DECLARATION OF PETER J. GOSS IN  
SUPPORT OF DEFENDANTS' OPPOSITION TO  
PLAINTIFFS' MOTION TO EXCLUDE THE  
OPINIONS AND TESTIMONY OF  
JIM HO, PH.D

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The videotaped deposition of JIM H0, in the above-styled suit, was taken pursuant to notice for discovery and/or evidentiary purposes, before Donna Gerbrandt CSR(A), at the offices of Borden Ladner Gervais LLP, Calgary, Alberta, Canada, on the 28th day of June, 2017.

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19 -----

## 1 - I N D E X -

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3

4 WITNESS

EXAMINATION

5 JIM HO

6 By MR. BANKSTON

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7 By MR. GORDON

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10 EXHIBITS

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12 EXHIBIT H0 1 - Paper by Raval et al titled 187

13 "Real-Time monitoring of non-viable airborne

14 particles correlates with airborne colonies and

15 represents an acceptable surrogate for daily

16 assessment of cell-processing cleanroom

17 performance"

18

19 EXHIBIT H0 2 - Report by Dr. Darouiche et al 200

20 titled "Association of Airborne Microorganisms in

21 the Operating Room With Implant Infections: A

22 Randomized Controlled Trial"

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1 (Proceedings commenced at 8:14 a.m.)

2 THE VIDEOGRAPHER: Here begins the  
3 videotaped deposition of Jim Ho in the matter of  
4 Re: Bair Hugger forced air warming products  
5 liability litigation, in the United States District  
6 Court, District of Minnesota, MPL No. 15-2666.

7 Today's date is June 28th, 2017.  
8 The time on the video monitor is 8:15 a.m. We are  
9 on the record.

10 The videographer today is  
11 Bernice Dubon on behalf of Amicus Reporting Group.  
12 The video deposition is taking place at the offices  
13 of Borden Ladner Gervais of Calgary, Alberta.

14 Would counsel please voice identify  
15 themselves and state whom they represent.

16 MR. BANKSTON: Mark Bankston on  
17 behalf of the plaintiffs.

18 MR. ASSAAD: Gabriel Assaad on  
19 behalf of the plaintiffs.

20 MR. GORDON: Corey Gordon on  
21 behalf of the defendants 3M and Arizant.

22 THE VIDEOGRAPHER: The court reporter  
23 today is Donna Gerbrandt on behalf of  
24 Amicus Reporting Group. Would the reporter please  
25 swear in the witness.

1                    JIM HO, sworn

2                    BY MR. BANKSTON

3                    Q.     Good morning, Mr. Ho.

4                    A.     Good morning.

5                    Q.     I'm going to be talking to you today  
6     about some opinions that you gave in this case. I  
7     understand -- you've given a deposition before;  
8     right?

9                    A.     That's true.

10                  Q.     Okay. How many times do you think  
11     you've been deposed before?

12                  A.     Once.

13                  Q.     One time. Okay. Then just as a little  
14     refresher, I know you don't do this all the time,  
15     it's just like we're in a courtroom, just there's  
16     no judge here. We're going to be asking each  
17     other -- I'm going to be asking you questions,  
18     you'll be giving me answers. We need to be really  
19     careful not to talk over each other. She's writing  
20     everything down. So we'll try to pause between  
21     each other. You know, sometimes in natural  
22     conversation you tend to interrupt each other,  
23     finish each other's sentences. It's tough to do  
24     that for her so we'll try to avoid that.

25                                I also know, not being an

1 experienced witness, I know maybe your lawyer has  
2 talked to you, but I want to make it really clear,  
3 I may ask you some questions during this deposition  
4 where the answer may involve discussions you've had  
5 with your attorney. I don't want you to just  
6 volunteer me things that you said with your  
7 attorney. If there's anything like that that's  
8 privileged with your attorney and I ask you a  
9 question that implicates a discussion with counsel,  
10 I want you to tell me that, "Sorry, that implicates  
11 a discussion with counsel."

12                   You previously testified in a case  
13 called TSI Incorporated; is that right?

14           A.     That's true.

15           Q.     Okay. What was your role in that case?

16           A.     I was the inventor of an instrument.

17           Q.     Okay. What kind of suit was that?

18           A.     The -- there was a company that was  
19 attempting to make a copy of the invention.

20           Q.     Which would have violated intellectual  
21 property or a patent or something?

22           A.     A patent. A patent, right. Yeah.

23           Q.     Okay.

24                   MR. GORDON:                   Excuse me for  
25 interrupting. Does he need to have the



1 microphone --

2 MR. BANKSTON: They let us know --

3 I think -- is the sound level okay?

4 THE VIDEOGRAPHER: It is, yes.

5 MR. GORDON: It's okay.

6 BY MR. BANKSTON

7 Q. All right, sir. Is that the -- is that  
8 the only case you've appeared in?

9 A. That's right.

10 Q. Okay. And so that would be the case you  
11 were deposed in as well; right?

12 A. That's right.

13 Q. Okay. I understand that you are being  
14 compensated \$600 an hour for general consultation  
15 and \$750 an hour when you're in a room testifying  
16 like today?

17 A. That's true.

18 Q. Okay. Now, your role in this case,  
19 would you agree with me that your role is to  
20 provide an independent objective analysis?

21 A. That's right.

22 Q. In other words, you're not here to be an  
23 advocate for the defendant?

24 A. That's right.

25 Q. Okay. Let's talk a little bit about

1 your education. I know you have a bachelors and a  
2 masters in microbiology?

3 A. True.

4 Q. Okay. The PhD is in microbial  
5 chemistry?

6 A. Right.

7 Q. Do you have any other advanced  
8 education?

9 A. Yes. I spent a lot of time  
10 understanding aerosol technology. The nature of  
11 the work I was doing required that I understand  
12 all -- all the subjects involved with aerosol  
13 technology.

14 Q. Okay. Is that -- is that knowledge you  
15 acquired at the Department of National Defence?

16 A. It's mostly through attaining --  
17 attending conferences --

18 Q. Okay.

19 A. -- working with colleagues, and mostly  
20 hands-on, intending to use instrumentation to  
21 characterize and define aerosol characteristics.

22 Q. Okay. You would agree that your career  
23 has been spent as a researcher for the Canada's  
24 Department of National Defence?

25 A. That's correct.

1 Q. In your report you divided your career  
2 up into pre 1990s and post 1990s. Is that a good  
3 way to divide your career, you think?

4 A. Yeah, yes.

5 Q. Okay. I understand that the first part  
6 of your career was what we were just talking about,  
7 correct, the understanding of biological aerosols?

8 A. Yeah.

9 Q. Okay. And you would agree an aerosol is  
10 either a solid or a liquid particle suspended in  
11 the air?

12 A. Say again.

13 Q. An aerosol is a solid or a liquid  
14 particle suspended in the air?

15 A. That's right.

16 Q. Okay. You would agree that aerosols  
17 travel along the current of the air?

18 A. True.

19 Q. Okay. Now, your career post 1990s has  
20 been primarily of the development of biological  
21 detection systems; correct?

22 A. Yes, but the -- but the mandate from the  
23 very beginning of my career was to develop  
24 biological detection technologies.

25 Q. Okay.

1           A.     So at the time there wasn't a lot of  
2     technology available that you could either buy off  
3     the shelf or adopt. I noted that I had to go and  
4     learn all I need to learn about what the problem  
5     was with respect to aerosols and technologies. And  
6     then having achieved that I can then actually go  
7     and develop the technology.

8           Q.     So you have become an expert in making  
9     machines which can see biological agents?

10          A.     To be correct, I was an expert in the  
11     inherent signs in how do you detect live biological  
12     agents.

13          Q.     Okay.

14          A.     So once I understood that, then I could  
15     then conceive of an instrument or a method to go  
16     about doing it.

17          Q.     Okay. And you do have expertise in  
18     performing biological detection and biological  
19     sampling studies?

20          A.     Say that again.

21          Q.     Do you have any expertise in performing  
22     biological detection and biological sampling  
23     studies?

24          A.     Yeah. That was the skill set that I had  
25     to acquire and learn to be -- to be functional in

1 developing the technology.

2 Q. Okay. And would you agree that for  
3 nearly 30 years you've been in the practice of  
4 developing devices and using -- using or selling  
5 them to various clients and the government and  
6 others?

7 A. That's not exactly true. My job is to  
8 develop the hardware and the software technology  
9 for military applications, which is Canadian  
10 military, and -- and selling it really was not my  
11 job.

12 Q. Okay. What hardware and software  
13 technologies did you use in this case?

14 A. Well, the final instrument that  
15 performed the task of detecting the presence of  
16 live agents was what we would call -- it's an  
17 abbreviation, F-L-A-P-S, FLAPS.

18 Q. Okay.

19 A. So I found that it is not just good  
20 enough to develop an instrument that you think is  
21 good enough. You actually have to go out --  
22 outside of the laboratory and demonstrate that it  
23 works in the -- in the environment it was -- it was  
24 set for, which is military -- military conditions,  
25 which is outdoors.

1 Q. Okay. My question was more -- let's  
2 back up a bit. You were retained in this case to  
3 perform work; correct?

4 A. This is with the National Defence?

5 Q. No, no, no. In this case --

6 A. Oh, in this case.

7 Q. -- this lawsuit that we're here for  
8 today.

9 A. Okay.

10 Q. Let me start over then.

11 A. Yeah.

12 Q. In this lawsuit --

13 A. Yeah.

14 Q. -- 3M approached you to retain you to  
15 perform work in this case?

16 A. What do you mean by "work?" I'm...

17 Q. You have been hired as an expert;  
18 correct?

19 A. Right.

20 Q. Okay.

21 A. Yeah.

22 Q. In performing those expert duties you  
23 have executed certain work and been paid for that  
24 work; correct?

25 A. Yeah.

1 Q. Okay.

2 A. Okay.

3 Q. So my question is, when talking about  
4 those hardware and software technologies for  
5 biological detection --

6 A. Right.

7 Q. -- what hardware and software systems  
8 did you use in this lawsuit?

9 MR. GORDON: Objection. It  
10 assumes facts not in evidence.

11 A. That -- that wasn't the -- the intent.

12 BY MR. BANKSTON

13 Q. Okay. So these things we've been  
14 talking about, the development of biological  
15 detection systems, performing biological sampling  
16 studies --

17 A. Yeah.

18 Q. -- those are things you did not do in  
19 this case?

20 A. No. It wasn't the intent.

21 Q. What exactly did you do in this case?

22 A. The... I provided a lot of insight into  
23 what biological agents are. In this particular  
24 example the controversy was -- was on biological  
25 aerosol particles. And I noted that there was a

1 great deal of misconception about what biological  
2 particles are, what the characteristics are. And  
3 so I provided what I had learned over my career to  
4 impress upon whoever is interested in what  
5 biological particles really are and how they  
6 behave.

7 Q. Okay. So would it be fair to say that  
8 what you did in this case is you wrote a report?

9 A. I did, yeah.

10 Q. Okay. Is there any other work that you  
11 performed? Any testing? Any other sort of  
12 abstract, outside-of-the-report type of work?

13 A. No.

14 Q. Okay. That report contains the outline  
15 of your opinions in this case?

16 A. That's correct.

17 Q. Okay. You would agree with me that in  
18 your report there is considerable discussion of  
19 clinical issues, clinical medicine, and clinical  
20 outcomes?

21 MR. GORDON: I object to the  
22 form of the question.

23 A. Well, the -- when you appreciate  
24 biological particles, biological agents, it always  
25 would have inherent indirection with the people,



1 animals, and all the other biological entities. So  
2 I'm not sure what you're really asking me when you  
3 say "clinical." So it's just inherent with the --  
4 with biological particles.

5 BY MR. BANKSTON

6 Q. Okay. Your report, for example,  
7 discusses orthopedic surgeons; correct?

8 A. It was mentioned as an example.

9 Q. Your report discusses nurses; correct?

10 A. That's mentioned, yeah.

11 Q. Your report discusses the features of an  
12 operating room?

13 A. That's true too.

14 Q. Your report discusses surgeries?

15 A. Yeah, that was mentioned.

16 Q. Your report discusses retrospective  
17 clinical analysis?

18 A. That's true too.

19 Q. Okay. Describe to me what your  
20 education is in clinical medicine.

21 A. As a microbiologist, one of the things  
22 you do is to understand what kind of diseases that  
23 microorganisms cause you. So one of the training  
24 you do as a -- as a microbiologist is to learn from  
25 basic principles how do you define and have a way

1 to determine what the name of the microorganism is.  
2 And then once you discover that, then you know  
3 whether it is going to be disease causing or not.

4 Does that go along with what you're  
5 expecting?

6 Q. Not exactly, but let's get more  
7 specific. And I think that will help us, if we get  
8 a little more specific. For instance, are you an  
9 expert in evaluating clinical outcomes in  
10 healthcare settings?

11 A. No.

12 Q. Okay.

13 A. Yeah.

14 Q. Are you an expert in hospital air  
15 quality?

16 MR. GORDON: I object to the form  
17 of the question.

18 A. I -- I'm not sure what you're trying to  
19 understand from that question, but you would notice  
20 that we have done some experiments with the -- with  
21 the wind tunnel to determine how you may be able to  
22 detect presence of biological particles in a clean  
23 room condition. So if you could -- if you could  
24 transpose that into what you're asking, then the  
25 answer would be yes. If you don't accept that,

1 then the answer would be no.

2 BY MR. BANKSTON

3 Q. Okay. For instance, have you ever  
4 performed biological sampling inside of a hospital?

5 A. Yes.

6 Q. Okay. Where was that?

7 A. This would be in the mid '90s, where  
8 there was a SARS infection problem with the  
9 hospitals in Canada. Specifically the Sunnybrook  
10 Hospital.

11 Q. Okay.

12 A. At that time people were dying from it,  
13 doctors were dying, and they didn't know where the  
14 infection was coming from.

15 Q. Okay. Are you familiar with the term  
16 "H-V-A-C," or HVAC?

17 A. Yes.

18 Q. Okay. Are you an expert in HVAC or  
19 ventilation issues?

20 A. If I say yes, will you want to -- want  
21 me to explain why I say yes?

22 Q. I mean, we can follow up on that, but  
23 I'm -- let me summarize it this way. I understand  
24 that you're going to be giving opinions to the  
25 jury; correct?

1           A.     Maybe yes, maybe no. It depends on how  
2 far this thing goes.

3           Q.     Sure. But, in other words, you have a  
4 camera in front of us right now.

5           A.     Yeah.

6           Q.     You're giving opinions in the lawsuit;  
7 right?

8           A.     Yeah.

9           Q.     Okay. And I need to know before we get  
10 down to the courthouse --

11          A.     Yeah.

12          Q.     -- I need to know exactly what you're  
13 going to be talking about, what fields you think  
14 you're going to be addressing, what fields you  
15 consider yourself to be an expert in.

16                         So what I want to know is --

17          A.     Yeah.

18          Q.     -- are you claiming to be an expert in  
19 HVAC ventilation?

20          A.     I'll give you the example of my  
21 expertise and you tell me whether I'm an expert or  
22 not.

23          Q.     I can't tell you anything. I need -- I  
24 need -- I need an answer from you. Do you consider  
25 yourself to be an expert in HVAC ventilation?

1           A.     Well, as a scientist, we are very  
2     careful not to claim expertise in everything under  
3     the sun. So I can only tell you what my experience  
4     has been and what I've learned from my experience.  
5     So you tell me whether I'm an expert or not.

6     I'm -- I'm a -- we are -- we are trained to be  
7     modest by nature. We don't go around and tell  
8     everybody that we know everything under the sun.

9           Q.     Okay. Object as nonresponsive.

10          A.     Yeah.

11          Q.     You're currently charging 3M in this  
12     room \$750 an hour because you are an expert;  
13     correct?

14          A.     I am here because 3M, or whoever is part  
15     of 3M, think I have something to contribute.

16          Q.     Okay.

17          A.     In the -- at the end of the day they  
18     could say, yeah, what he has provided me labels him  
19     as an expert. That is the opinion. I did not jump  
20     up and down and say, "Look, I'm an expert. Why  
21     didn't you hire me?"

22          Q.     Okay.

23          A.     So what they pay me is really immaterial  
24     to whether I'm an expert or not.

25          Q.     Okay. You feel comfortable telling a

1 jury of 12 Americans that you're an expert in the  
2 field of microbiology; correct?

3 A. I -- I would say that if that's what  
4 they consider having spent 30 years in -- in bio  
5 aerosol as an expert, then that is fair enough.

6 Q. Okay. Are you an expert in operating  
7 rooms?

8 A. No.

9 Q. Okay.

10 A. No.

11 Q. Are you -- do you have any expertise on  
12 the levels of bioburden within an operating room?

13 A. No.

14 Q. Okay. So you wouldn't be able to tell  
15 me, for instance, does every area in an operating  
16 room have equivalent levels of bioburden?

17 A. I -- I cannot say with a blanket  
18 statement.

19 Q. Okay.

20 A. Nor can anybody else really.

21 Q. Well, would you agree with me -- do you  
22 have any expertise to say whether the area  
23 underneath the surgical table has more bioburden  
24 than other parts of the room?

25 A. No. Yeah.

1 Q. You're not an expert in orthopedic  
2 surgery, are you?

3 A. No. Apart from the fact that I'm the  
4 son of an orthopedic surgeon. Does that help any?

5 Q. Again, I'm not -- I'm not answering  
6 questions today.

7 A. Yeah.

8 Q. I can't -- I can't help you along. You  
9 know, that's -- I can let you answer questions is  
10 what I can do.

11 A. Yeah. Yeah.

12 Q. But do you -- do you think that you  
13 could comfortably represent to a jury of 12  
14 Americans that you being the son of an orthopedic  
15 surgeon makes you an expert qualified to give  
16 opinions in a lawsuit?

17 A. That would be a bit far fetched.

18 Q. I would think so. Okay. You're not an  
19 expert in anesthesiology, are you?

20 A. No.

21 Q. You're not an expert in infectious  
22 disease?

23 A. It would be safe to say no, but in the  
24 work area that I'm in I have to be aware of what  
25 are the threat agents for the Canadian military,

1 and for that matter we need to know a lot about  
2 infectivity, if that's what you're driving at.

3 Q. Can you describe to me what a  
4 peri-prosthetic joint infection is?

5 A. No.

6 Q. Okay. So do you have any -- I mean, I  
7 assume since not giving a definition, you wouldn't  
8 consider yourself as having specific expertise in  
9 peri-prosthetic joint infections?

10 A. No.

11 Q. Okay. Did you know anything about the  
12 device before accepting work in this case? And by  
13 "the device" I mean the Bair Hugger surgical  
14 warming unit.

15 A. No.

16 Q. You're not an engineer; correct?

17 A. That's correct.

18 Q. You're not a biomedical engineer?

19 A. No.

20 Q. What do you understand the device to do,  
21 the Bair Hugger?

22 A. From the description that was -- that I  
23 read and what was told to me, it's a technology or  
24 a device that provides warming features for a  
25 patient under -- under operation.



1 Q. Okay. Have you ever seen the device?

2 A. No.

3 Q. You would agree with me that as an  
4 expert you need to understand the nature of the  
5 problem being claimed in order to investigate it?

6 MR. GORDON: I object to the form  
7 of the question.

8 A. I -- I need to -- to know exactly  
9 what -- what is the -- the issues at hand.

10 BY MR. BANKSTON

11 Q. Yeah, that's a good way to put it.  
12 Like, for instance, in a lawsuit the issues at hand  
13 is what the plaintiff is claiming happened to him  
14 because of this device; right?

15 MR. GORDON: I object to the form  
16 of the question, also lack of foundation.

17 BY MR. BANKSTON

18 Q. Would you agree with that?

19 A. Well, if I -- if I were to give -- give  
20 an impression of what biological aerosols are,  
21 would I need to know any of the things that you say  
22 I need to know?

23 Q. Well, I haven't even said anything. I'm  
24 wondering what do you think the issue is that  
25 you're here to address?

1                   MR. GORDON:                   I object to the form  
2 of the question.

3           A.     What -- what are the issues?

4                   BY MR. BANKSTON

5           Q.     Right. Well, I take it -- let me back  
6 up.

7           A.     Yeah.

8           Q.     You wrote a report?

9           A.     Right.

10          Q.     That didn't come out a whole cloth, that  
11 you just -- that you were addressing something with  
12 that report; right?

13          A.     Yeah. The report essentially tries to  
14 illuminate lack of knowledge or knowledge you get  
15 in aerobiology.

16          Q.     Okay. That report covers a lot more  
17 topics than aerobiology, though, doesn't it?

18                   MR. GORDON:                   I object to the form  
19 of the question.

20          A.     Well, I'm not sure exactly what you mean  
21 by "a lot." Aerobiology is a complex topic. It  
22 cannot be answered with one sentence alone. So if  
23 I am guilty of saying more than one sentence, yes,  
24 you're right.

25                   BY MR. BANKSTON

1 Q. Okay. For instance, do you understand  
2 what the plaintiffs are claiming happened to them  
3 in this case?

4 A. If I understand correctly, they claim  
5 that the air coming from a Bair Hugger has the  
6 potential to cause infections.

7 Q. You mean -- and you mean the air being  
8 exhausted out of the Bair Hugger?

9 MR. GORDON: I object to the form  
10 of the question.

11 A. I -- I -- I wouldn't know if it is  
12 exhausted or coming from it, but that's the overall  
13 impression.

14 BY MR. BANKSTON

15 Q. Have you seen the plaintiffs' complaint  
16 before?

17 A. What do you mean?

18 Q. Oh, okay. I forget. I'm asking you  
19 questions like you're an expert who comes to  
20 depositions every week. When I say "complaint" --

21 A. Yeah.

22 Q. -- actually that's a legal term --

23 A. Yeah.

24 Q. -- meaning the initiating document of a  
25 lawsuit. Have you ever seen that document where

1 the plaintiff sets forth why they think 3M is  
2 responsible for something?

3 A. I don't believe so.

4 Q. Okay. Do you have an understanding of  
5 how the plaintiffs believe the Bair Hugger caused  
6 their infections?

7 A. I don't -- I don't think so.

8 Q. Okay. The first topic I really want to  
9 talk to you about in your report is regarding the  
10 size of particles. You know that there's a  
11 discussion about the size of particles and the size  
12 of biological aerosols?

13 A. Right.

14 Q. Okay. Did you bring a copy of your  
15 report with you today?

16 A. I did.

17 Q. Okay. Do you want to get that out for  
18 me and we'll take a look at it together.

19 Now, Mr. Ho, before we dive into  
20 the report itself, I want to talk generally in  
21 terms of what you reviewed to create this report.  
22 From what I understand, everything that you  
23 reviewed is cited somewhere in the report?

24 A. Yeah. It's open literature material.

25 Q. Okay. So you would agree with me that

1 the things that you have reviewed consist of  
2 third-parties' published literature?

3 MR. GORDON: I object to the form  
4 of the question.

5 A. Well, what's your objection about that?

6 BY MR. BANKSTON

7 Q. I don't have any objection, sir. I'm  
8 just asking you what you reviewed. Did you review  
9 third-party literature?

10 A. Well, if that's a criticism, then all  
11 science is -- is -- is to be -- to be criticised  
12 because we build on top of each other's knowledge  
13 and shoulders.

14 Q. Okay. Let me --

15 A. So no man is an island. You don't put  
16 out facts and information out of thin air.

17 Q. Okay. Let me -- let me maybe help speed  
18 the deposition a little bit along by letting you  
19 know this. I agree wholeheartedly with everything  
20 you just said. I am not in any way --

21 A. Yeah.

22 Q. I think literature is great.

23 A. Yeah.

24 Q. I love literature. I love scientific  
25 publications.

1 A. Yeah.

2 Q. I am -- I'm going through a protocol  
3 right now --

4 A. Yeah.

5 Q. -- where I have to figure out what it is  
6 exactly that is in your report, what we're relying  
7 on.

8 A. Yeah.

9 Q. I'm not coming at you to attack you;  
10 right?

11 A. I'm just saying, but the fact that I  
12 put -- I very carefully put in the citations would  
13 give you an indication that, yes, all the  
14 information that is derived was obtained from  
15 legitimate peer-reviewed sources.

16 Q. Okay. So let's -- what I want to get is  
17 get all the different kinds of things you reviewed  
18 in this case.

19 A. Yeah.

20 Q. So the first category of things you  
21 would have reviewed is published peer-reviewed  
22 literature?

23 A. Correct.

24 Q. Okay. What other things might you have  
25 reviewed in this case? Do you know if there's

1 anything that doesn't fit in that category?

2 A. I -- as a professional, I would avoid  
3 using nonpeer-reviewed sources. And so it is  
4 correct for you to think that all the citations are  
5 peer-reviewed.

6 Q. Okay. So let's talk about some things  
7 and whether you reviewed them. Have you reviewed  
8 any document produced by 3M?

9 A. 3M-published documents? Is that what  
10 you're saying?

11 Q. Let's go back one more question. Were  
12 you aware, sir, that 3M has produced millions of  
13 pages of documents in this lawsuit?

14 A. No. I haven't seen any of those.

15 Q. Nobody provided those to you?

16 A. No.

17 Q. Were you aware of the number of  
18 witnesses who have been -- had their deposition  
19 taken in this case?

20 A. No. The number of witnesses or who they  
21 are?

22 Q. Yeah. Do you know any of them?

23 A. No, not really. I came into this thing  
24 relatively new. My -- my involvement is not much  
25 more than three weeks really.

1 Q. Three weeks?

2 A. Yeah.

3 Q. Okay. With respect -- so, for instance,  
4 you weren't aware that some of the publishers,  
5 scientific authors that you cite in your paper --

6 A. Yeah.

7 Q. -- in your report, were you aware that  
8 they have been deposed in this case?

9 A. Not really.

10 Q. So it would be fair to say that you have  
11 not reviewed any testimony relating to this  
12 lawsuit?

13 A. That's correct.

14 Q. Okay.

15 MR. GORDON: Mark, you've  
16 already, obviously, picked up on the fact that  
17 Dr. Ho is not an experienced witness --

18 MR. BANKSTON: Right. Right.

19 MR. GORDON: -- and particularly  
20 when it comes to American litigation. I'm thinking  
21 when you said "testimony," I'm -- could you  
22 maybe -- it's just a suggestion. Would you break  
23 it down into little bite-sized categories like, you  
24 know, did we provide him with any expert reports or  
25 did we provide him with any deposition transcripts



1 or --

2 MR. BANKSTON: Oh, I see.

3 MR. GORDON: Things like that.

4 MR. BANKSTON: You're saying that  
5 testimony can mean multiple things?

6 MR. GORDON: He might be thinking  
7 testimony in court.

8 MR. BANKSTON: Got you. Okay.

9 MR. GORDON: Because I --

10 MR. BANKSTON: Let's go back and  
11 make sure we do this correct, because I think I  
12 know what you're getting at there.

13 Q. One of -- we talked about the first  
14 category of things you reviewed, which is  
15 scientific literature?

16 A. Right.

17 Q. Right. And then we had talked about  
18 deposition testimony, which would be on a page with  
19 numbers down the line and people asking questions  
20 back and forth. You've never reviewed any of that  
21 kind of testimony, have you?

22 A. I saw one yesterday, but it was just a  
23 quick reference.

24 Q. What did you see yesterday?

25 A. I think it was one on Andrew Jones Legg.

1 Q. Oh, okay. Dr. Legg?

2 A. Yeah.

3 Q. Okay.

4 A. Yeah.

5 Q. And who do you understand Dr. Legg to  
6 be?

7 A. Well, he had published some papers. I  
8 think it was something I cited in my report. So  
9 the -- the actual material I saw was questions  
10 being asked of Dr. Legg.

11 Q. Did you review the entire deposition?

12 A. No.

13 Q. Okay. What did you review?

14 A. Mostly starting from page 52 and a few  
15 pages after that.

16 Q. Okay. What specifically were you  
17 reviewing? What were you looking for?

18 A. It was something about measuring  
19 biological aerosols.

20 Q. It was your understanding that Dr. Legg  
21 did some sort of measurement of biological  
22 aerosols?

23 A. Well, that's the trouble with this  
24 business. All kinds of people claim to know how to  
25 measure biological aerosols, but almost every one

1 of them either do it in the wrong way, interpret  
2 the data in the wrong way, and, even worse, present  
3 the data in a misleading way.

4 So I don't know if that answers  
5 your question. If it doesn't answer your  
6 question...

7 Q. It does not. Objection, nonresponsive.

8 All I'm asking you is do you  
9 understand if Dr. Legg did some sort of biological  
10 measurements?

11 A. Well, as I've said, they all -- they all  
12 claim to do that.

13 Q. So Dr. Legg performed biological  
14 sampling studies? That's what I'm trying to ask  
15 you.

16 A. Well, he says so. He thinks he done it.

17 Q. Okay.

18 A. So what I'm really trying to get at is  
19 that there are a proper way to do things and there  
20 are improper way to do things.

21 Q. Now, another thing you reviewed that we  
22 haven't talked about yet is you reviewed expert  
23 reports; correct?

24 A. Yes.

25 Q. Okay. Whose expert reports have you

1 reviewed?

2 A. I don't -- I'm not good at names --

3 Q. Okay.

4 A. -- but some which were given to me  
5 were -- I think Buck was one of them. And then  
6 another one was Konis -- Konisberger (verbatim), or  
7 somebody. Yeah. And then there may have been --  
8 there may have been another one.

9 Q. Dr. Yadin David --

10 A. Yeah.

11 Q. -- does that ring a bell?

12 A. That's right.

13 Q. Okay. Do you think you've reviewed  
14 anything else besides that?

15 A. Those were the ones that were shown --  
16 given to me.

17 Q. Okay. Besides expert reports, besides  
18 the little bit of testimony that you reviewed  
19 yesterday, and besides scientific literature, is  
20 there anything else you reviewed?

21 A. That's about it.

22 Q. Okay. All right. Let's talk a little  
23 bit about particles and sizes of particles. On  
24 page 16 of your report there's a discussion about  
25 biological aerosols; correct?

1 A. Page 16, yeah.

2 Q. Okay.

3 A. Yeah.

4 Q. You would agree with me that one of the  
5 contentions of your report is that "particles in  
6 the 1 to 2.5 micron size range are representative  
7 of naturally occurring biological aerosol..."  
8 correct?

9 A. Are you quoting from --

10 Q. I'm directly quoting. Yes, sir. Do you  
11 agree that that's accurate?

12 A. Okay. Let's hear that again.

13 Q. Sure. "Particles in the 1 to 2.5 micron  
14 size range are representative of naturally  
15 occurring biological aerosol..."

16 A. Right.

17 Q. Okay. Why is that important to your  
18 opinion in this case?

19 A. What do you mean?

20 Q. Why is that consequential to this  
21 lawsuit whatsoever?

22 MR. GORDON: Well, I object on  
23 foundation of grounds, at least.

24 A. I'm not truly following the --

25 BY MR. BANKSTON

1 Q. Well, you put it in your report; right?  
2 The statement's in your report? Why is it in your  
3 report? What are you trying to prove? What are  
4 you trying to -- what's the significance of that  
5 statement?

6 A. Well, that wasn't the only thing I said.

7 Q. I understand that. We'll talk about a  
8 lot of other things you said too.

9 A. Yeah.

10 Q. We're not going to spend all deposition  
11 on this sentence, I guarantee you. But I'm  
12 wondering for this sentence, why is it -- why is  
13 that important to you?

14 A. I'm not sure it was said with any  
15 specific importance at all.

16 Q. Okay. You also give the opinion that  
17 "artificial biological aerosols generated as  
18 significant threats contained particles mostly in  
19 the 2 to 10 micron size range...", correct?

20 A. Correct.

21 Q. Okay. When you talk about biological  
22 aerosols that generate --

23 MR. GORDON: I'm sorry. Were you  
24 reading from his report?

25 MR. BANKSTON: I sure was. I was

1       there, yeah.

2                   MR. GORDON:               I may have mis -- I  
3       apologize. I may have misheard. I didn't see what  
4       you were -- if that was reading.

5                   Madam court reporter, could you  
6       just read the question back? I'll see if I can  
7       find it.

8                   COURT REPORTER (By reading):  
9       "Q. You also give the opinion that  
10      'artificial biological aerosols  
11      generated as significant threats  
12      contained particles mostly in the 2 to  
13      10 micron size range'?"

14                  MR. GORDON:               Okay. I object to  
15      the form of the question. It misstates the  
16      testimony. It is not in fact a reading from his  
17      report.

18                  MR. BANKSTON:            Hold on. Let me  
19      check. I'm pretty sure I got it verbatim. Let me  
20      check. I'll pull it up.

21                  MR. GORDON:               The difference is  
22      you injected the word "artificial."

23                  MR. BANKSTON:            Let's see. No, I  
24      sure didn't.

25                  Q.     Look at page 1 of your report, Mr. Ho.

1 A. Yeah.

2 Q. Okay. You see the bottom paragraph?

3 A. Yeah.

4 Q. You see the second line? Are you with  
5 me?

6 A. Yeah.

7 Q. Okay. So this is when talking about  
8 some of those early studies you were performing;  
9 correct?

10 A. Yeah.

11 Q. And where "it was found that artificial  
12 biological aerosols generated as significant  
13 threats contained particles mostly in the 2 to 10  
14 micron size range..." That's correct?

15 A. This is in reference to biological  
16 threat agents in the military context.

17 Q. Okay. So when it talks about  
18 "biological aerosols generated as significant  
19 threats," what does that mean, "generated as  
20 significant threats?"

21 A. In the battlefield, because it's such a  
22 wide open space, you would -- you would need to  
23 produce enough material to go downwind to become a  
24 threat to your -- to your enemy. That's what it  
25 meant.



1 Q. Okay. Now, this sentence -- when you  
2 see the word "mostly" in this sentence, "mostly" in  
3 this context means there are biological aerosols  
4 outside of this size range?

5 A. What -- what area are you referring to  
6 outside?

7 Q. Let's look at the -- let's look at the  
8 sentence together, okay?

9 A. Yeah, yeah.

10 Q. On your second line.

11 A. Yeah.

12 Q. And your sentence says that those  
13 aerosols contained particles mostly in the 2 to  
14 10 micron size range?

15 A. Yeah.

16 Q. So "mostly" in that context means there  
17 are biological aerosols outside of that size range?

18 A. You mean naturally occurring or --

19 Q. Sure.

20 A. Well, sure, if you -- if you consider  
21 fungal agents. Fungal agents are traditionally  
22 larger than the 10 micron size range. So if you  
23 were allergic to fungal spores or you were  
24 susceptible to fungal infectivity, then there would  
25 be big particles, bigger than the 10 micron size

1 range.

2 Q. And there will be particles smaller than  
3 2 microns, won't there?

4 A. Pardon?

5 Q. There will be particles smaller than  
6 2 microns?

7 A. So?

8 Q. I'm asking you if you agree with that.  
9 Do you agree that there will be natural biological  
10 presentation of airborne bacteria that involves  
11 particles smaller than 2 microns?

12 MR. GORDON: Now you're talking  
13 about natural?

14 MR. BANKSTON: Hmm hmm.

15 A. Well, are you pointing at absolutism?  
16 Like here you are -- I'm not saying that there is  
17 absolutely nothing else below 2 1/2.

18 BY MR. BANKSTON

19 Q. That's what mostly means; right? When  
20 you say there are mostly 2 to 10 in that sentence,  
21 the artificials are mostly in 2 to 10; right?

22 A. Okay.

23 Q. So when we talk about -- what I'm asking  
24 is when we talk about natural biological  
25 presentation, do you agree with me that in a

1 natural biological presentation there will be  
2 particles smaller than 2 microns?

3 A. If you were to tell me what is it that  
4 you really want to know, then it would be a lot  
5 easier for me to give you an answer. In this case  
6 I don't really know what you're really attempting  
7 to establish.

8 Q. Objection, nonresponsive.

9 What I really want to know,  
10 Mr. Ho --

11 A. Yeah.

12 Q. -- is in a natural presentation of  
13 biological aerosol --

14 A. Yeah.

15 Q. -- will there be particles less than  
16 2 microns big? Do you have the expertise to know  
17 if there will be or not?

18 MR. GORDON: I'll object to the  
19 form of the question.

20 A. Again, I'm hesitant to give you simple  
21 yes, no, absolute type answers without truly  
22 knowing what is it that you're trying to learn.  
23 Are you trying to learn something? Are you trying  
24 to -- are you trying to...

25 BY MR. BANKSTON

1 Q. So unless you know why I want to know --

2 A. Yeah.

3 Q. -- you aren't able to answer whether  
4 there will be particles under 2 microns, unless you  
5 know why I want to know that information?

6 A. Yeah. Well, what is it that you are  
7 really trying to --

8 Q. I'm curious, super curious.

9 A. -- comprehend here?

10 MR. GORDON: You know, you've  
11 been going -- you just went back and forth between  
12 one page where he's talking about naturally  
13 occurring, where he says 1 to 2.5. Then you,  
14 without alerting us, you switch to where he was  
15 talking about manufactured biological agents.

16 MR. BANKSTON: Hold on. I'm  
17 alerting people. I'm saying natural versus  
18 biological, and I suddenly switched, we're going to  
19 natural. I mean, is that an objection or is  
20 this -- are we just going to talk?

21 MR. GORDON: I think you're --  
22 particularly given that Dr. Ho is not a skilled  
23 expert witness who, you know, regularly deals with  
24 lawyers, you know, just ask -- try and ask him  
25 some --

1 MR. BANKSTON: I asked him a  
2 question.

3 MR. GORDON: -- straightforward  
4 questions.

5 MR. BANKSTON: How is it not a  
6 straightforward question -- come on, Corey -- to  
7 ask him --

8 MR. GORDON: Before you -- before  
9 you went back to the --

10 MR. BANKSTON: Lets forget every --

11 MR. GORDON: -- you know,  
12 biowarfare stuff, you just read him -- read his own  
13 statement where he said 1 to 2.5. So now you're  
14 trying to ask him, you know, do things occur less  
15 than 2. Well, he already said that they did  
16 naturally.

17 MR. BANKSTON: Then I have no idea  
18 why we're having such a hang-up over this.

19 MR. GORDON: Well, because  
20 you're --

21 MR. BANKSTON: Let's go back.

22 MR. GORDON: That's what I'm  
23 trying to find out, Mark.

24 MR. BANKSTON: Let me ask -- let me  
25 ask questions.

1 MR. GORDON: That's fine.

2 MR. BANKSTON: Please, let's not do  
3 this all day. I don't want this colloquy back and  
4 forth. We're talking about stuff. I don't want to  
5 do that. If he's not a prepared witness, he's not  
6 a super expert witness, I don't consider that my  
7 problem today.

8 Q. What I want to know Dr. Ho, or Mr. Ho,  
9 is when you said on page 16 of your report that  
10 particles in the 1 to 2.5 micron size range are  
11 representative of naturally occurring biological  
12 aerosol, that is a correct statement; correct?

13 A. Well, in -- in the way it is written,  
14 yes.

15 Q. What do you mean by "the way it's  
16 written?" What does that mean?

17 A. Okay, let me try to answer your question  
18 in a more technical way so that -- so that we don't  
19 all go around in circles, if I may.

20 Q. Well, if it's the answer how does -- how  
21 is it written -- how does it change it how it's  
22 written?

23 A. Well --

24 Q. Is there a way you can write it where  
25 it's not true and it's true, or..?

1           A.    -- I'm making the assumption that you  
2   are actually trying to understand how biological  
3   aerosols present themselves in air.

4           Q.    Hmm hmm.

5           A.    I'm just pretending that you really want  
6   to know that.

7           Q.    Right.

8           A.    Okay. So the way aerosols exist in air,  
9   they don't actually appear in convenient chunks.  
10   So particles appear as a -- as a spectral  
11   presentation.

12          Q.    Along different size ranges do you mean?

13          A.    Yeah.

14          Q.    Okay.

15          A.    It's a spectral array. So -- so why is  
16   it that you want to chop things up in a way that  
17   would meet with whatever notions that you may have?

18          Q.    Well, what I'm wondering is why you  
19   chopped it up that way. You said particles --

20          A.    Ah. Okay.

21          Q.    -- in the 1 to 2.5 micron --

22          A.    Yeah.

23          Q.    -- size range --

24          A.    Okay.

25          Q.    -- are representative --

1 A. Okay.

2 Q. -- of naturally occurring biological  
3 aerosol.

4 A. I'll --

5 Q. You would agree with me, sir --

6 A. I will give you the answer as to why  
7 statements of that nature exist in the literature.

8 Q. Okay. That's not what --

9 A. Are you ready?

10 Q. I'm sorry, that's not at all what I'm  
11 asking. I'm asking you put a sentence in your  
12 report. Let's read that sentence together again.

13 MR. GORDON: It's on page 16.

14 BY MR. BANKSTON

15 Q. On page 16 of your report. Let's go to  
16 page 16. I want to make sure we're both talking  
17 about exactly the same thing.

18 A. Okay.

19 Q. Do you see where you say: "...particles  
20 in the 1 to 2.5 micron size range are  
21 representative of naturally occurring biological  
22 aerosol..."? Do you see that?

23 A. I see that.

24 Q. Okay. So if that statement is correct,  
25 that means that in natural biological presentations



1 of aerosol there can be particles smaller than  
2 2 microns; correct?

3 A. Yes.

4 Q. Okay. That's it. We're done there.

5 Now, your report in general  
6 contains a long discussion of the size of particles  
7 typically presented in aerosols; correct?

8 A. Right.

9 Q. Okay. What was it about this case that  
10 made you want to focus any attention on the size of  
11 aerosol particles?

12 MR. GORDON: I'm going to object  
13 on foundation grounds. Go ahead and answer, if you  
14 can.

15 A. Come again.

16 BY MR. BANKSTON

17 Q. What was it about this case that made  
18 you want to focus any attention on the size of  
19 aerosol particles in your report?

20 A. I was asked to illuminate the  
21 characteristics of biological particles in air, and  
22 that was what I have attempted to do.

23 Q. You have provided an opinion in this  
24 case that you think the Bair Hugger is safe for use  
25 in terms of infection risk; correct?

1 A. I don't think I say that.

2 Q. Okay. You gave opinions about filters;  
3 right?

4 A. Yeah.

5 Q. Okay. You know what I mean when I talk  
6 about a MERV 14 filter?

7 A. Yes.

8 Q. Okay. You believe that a MERV 14 filter  
9 is adequate inside the Bair Hugger; correct?

10 A. Yes.

11 Q. You believe that HEPA filters are  
12 overkill for this application?

13 A. That is a quotation from a source.

14 Q. Do you believe that HEPA filters are  
15 overkill in this application?

16 A. Are you wanting an opinion right here  
17 now?

18 Q. Hmm hmm. That's what you're here for,  
19 sir.

20 A. Yeah, I think HEPA filters are more than  
21 what would be required.

22 Q. Required for what?

23 A. For the -- the purpose of what the  
24 instrument is supposed to do.

25 Q. Okay. And in terms of the filter, what

1 is the filter supposed to do?

2 A. It's supposed to trap particles.

3 Q. Okay. And the reason why you would want  
4 to trap particles in an operating room is what?

5 A. Cut down on the number of particles  
6 flying around.

7 Q. Why would you not want particles flying  
8 around an operating room?

9 A. It's undesirable.

10 Q. For what? What bad would happen if  
11 there was airborne particles in an operating room?

12 A. It's just messy.

13 Q. Why do I care if an operating room is  
14 messy?

15 A. Because that's a religion.

16 Q. What do you mean it's a religion?

17 A. Well, let's put it this way. If you  
18 were a patient going in for an operation --

19 Q. Hmm hmm.

20 A. -- and somebody were to tell you that  
21 that operating room is messy, would you -- would  
22 you submit yourself to -- to the operation?

23 Q. I'm not an expert in any of these  
24 issues, so I don't know.

25 A. Yeah.

1 Q. I'm asking you why is it important to  
2 keep particles to a minimum in an operating room?

3 A. Well, that has always been good  
4 practice, to keep particles low. It's the same  
5 example as a -- as an electronic clean room  
6 facility.

7 Q. Okay. So let's -- let me give you a  
8 couple of examples.

9 A. Yeah.

10 Q. Let's -- I don't know anything about  
11 particles. I have a BA in English. All right? So  
12 try to help me out here.

13 A. Yeah.

14 Q. If you got particles flying around an  
15 operating room, let's talk about things that might  
16 happen here. It could stain the walls? Is that a  
17 problem? Is that why you keep particles out?

18 MR. GORDON: I object to the form  
19 of the question.

20 BY MR. BANKSTON

21 Q. That doesn't seem right, though; right?  
22 Like it's not because the particles will stain the  
23 walls or make them look un... Is it because  
24 there's a danger to the patient?

25 A. Well, having a clean facility is always

1     desirable. So that has always been the major  
2     thrust to doing business. So in so many of the  
3     cases, if that is your wish, then you would -- you  
4     would provide that environment.

5           Q.     All right. Let's just get it really  
6     simple.

7           A.     Yeah.

8           Q.     If you throw a bunch of particles into  
9     the environment --

10          A.     Yeah.

11          Q.     -- the reason you don't want to do that,  
12     the reason you would like to have a filter --

13          A.     Yeah.

14          Q.     -- the reason you would like to keep  
15     your operating room clean --

16          A.     Yeah.

17          Q.     -- is because if you don't people get  
18     infections; correct?

19                   MR. GORDON:                   I object to the form  
20     of the question.

21          A.     Well, you're making the major leap, and  
22     that's the kind of thing that would -- would cause  
23     problems in that. You can't say that.

24                   BY MR. BANKSTON

25          Q.     Do you have any expertise in what

1 infection-control measures are taken within  
2 orthopedic operating rooms?

3 A. Do I have what?

4 Q. Do you have expertise --

5 A. Yeah.

6 Q. -- to speak and give opinions about what  
7 infection-control measures are taken within an  
8 orthopedic operating room?

9 A. I don't think anybody could claim that.

10 Q. You don't think anybody could?

11 A. Yeah.

12 Q. You don't think orthopedic doctors, who  
13 work with infectious disease people to keep their  
14 operating rooms clean, could maybe talk about that?

15 MR. GORDON: I object to the form  
16 of the question, argumentative.

17 BY MR. BANKSTON

18 Q. So your contention is that no one on the  
19 planet can give opinions about procedures taken  
20 within an orthopedic operating room to prevent  
21 infection?

22 A. I might be speaking out of turn here,  
23 and slap me if I am, Corey, in the open literature  
24 there has been controversy as to whether a laminar  
25 flow clean air system actually help the -- cut down

1 on the number of infections. The controversy is  
2 still there. So what is it that you're trying to  
3 prove here?

4 Q. Okay. So let's talk about that; right?

5 A. Yeah.

6 Q. You recognize that there are experts who  
7 discuss and study laminar flow? That exists?  
8 Those people exist?

9 A. Well, I don't know -- you keep on  
10 throwing out words like "experts."

11 Q. Okay. Let's not use "experts."

12 A. Yeah. God doesn't create experts.

13 Q. There are scientists who spend a  
14 significant part of their time examining laminar  
15 flow? Those people exist?

16 A. Only -- only because it is -- it is  
17 believed that maybe laminar clean air would do  
18 things for you. But as it turn out, so many of the  
19 beliefs that most people have turn out to be wrong.  
20 So you really don't want to make it like a black  
21 and white issue here.

22 Q. Okay. Object, is nonresponsive.

23 I'm asking you a super simple  
24 question, and I understand we're having trouble  
25 hearing each other maybe a little bit.

1 A. Yeah.

2 Q. But all I'm asking you is -- let's break  
3 it down by super simple steps.

4 A. Yeah.

5 Q. There are scientists in the world;  
6 correct? That's a thing that exists, scientists?  
7 There are scientists. Agree?

8 A. Yeah, yeah.

9 Q. There are scientists who study things.

10 A. Yeah.

11 Q. Agree?

12 A. Yeah.

13 Q. Some of those scientists study laminar  
14 flow. Agree?

15 A. Yeah.

16 Q. Some of those scientists argue back and  
17 forth with each other about the effects of laminar  
18 flow. Agree?

19 A. Right. Yeah.

20 Q. You're not one of those people, are you?

21 A. No.

22 Q. Okay. So in terms about giving this  
23 jury opinions about the effectiveness of whether  
24 laminar flow, what it does or does not do, that's  
25 not something you're qualified to give opinions on;



1 correct?

2 A. That's right.

3 Q. Okay. You will agree with me, though,  
4 that the reason you want to keep particles out of  
5 an operating room to an absolute minimum is to  
6 prevent the incident of surgical infection;  
7 correct?

8 A. Now, where are we going with this one  
9 again? You already said that I'm not -- I'm not an  
10 expert in clean-room facilities.

11 Q. Okay.

12 A. And why are you asking me that question  
13 again?

14 Q. So you can tell me that's not a question  
15 you're qualified to answer?

16 A. Yeah.

17 Q. Okay.

18 A. I'm simply -- I'm simply here to provide  
19 you with insight into -- into bio aerosol  
20 technologies.

21 Q. Okay. And I appreciate that. I want  
22 you to tell me whenever that's true.

23 A. Yeah. Yeah.

24 Q. Whenever I'm talking or asking you a  
25 question about something you're not qualified to

1 talk about, tell me "That's not why I'm here,  
2 Mr. Bankston. I'm here for a totally different  
3 reason."

4 A. Yeah.

5 Q. That's totally fine. I don't have any  
6 problems with that. Let's talk a little bit more  
7 about this MERV 14 filter. You say -- let's go to  
8 page 25 of your report.

9 A. Got it.

10 Q. Okay.

11 MR. GORDON: Did you say 24?

12 MR. BANKSTON: 25.

13 Q. All right. Do you see the section that  
14 starts with D. --

15 A. Hmm hmm.

16 Q. -- MERV 14 filtration?

17 A. Yeah.

18 Q. Okay. You see the second sentence in  
19 that paragraph?

20 A. Yeah.

21 Q. It says: "Standard charts list this  
22 specification: removal of all bacterial particles  
23 sized within .3 to 1 micron."

24 A. Yeah.

25 Q. Do you see that?

1 A. Yeah.

2 Q. That's what a MERV 14 filter is --

3 A. Yeah.

4 Q. -- correct?

5 A. Right.

6 Q. Okay. So the Bair Hugger that we're  
7 talking about in this case --

8 A. Yeah.

9 Q. -- does it have a MERV 14 filter?

10 A. I was made to believe that it does.

11 Q. Okay. So if a Bair Hugger has a MERV 14  
12 filter, according to your report in this paragraph,  
13 that means that the Bair Hugger should be able to  
14 remove all bacterial particles sized within .3 to  
15 1 micron; correct?

16 A. I would more rephrase that in saying  
17 that particles. We don't really know if they're  
18 biological or not. It's particles size range.

19 Q. Okay. So in your report here --

20 A. Yeah.

21 Q. -- where it says "removal of all  
22 bacterial particles sized within .3 to 1 micron --"

23 A. Yeah.

24 Q. -- you're saying that we should take the  
25 word "bacterial" out of that?

1           A.    Well, we should put more emphasis on  
2   just raw particles, and bacteria, it's just an  
3   example.

4           Q.    Okay. I mean, I'm just quoting you  
5   here.

6           A.    Yeah.

7           Q.    And I understand that you included  
8   bacterial here --

9           A.    Yeah.

10          Q.    -- but that may not necessarily be the  
11   right focus you're saying? It's more about  
12   particles?

13          A.    Well, there are a lot -- there are a lot  
14   of particles out there of the size range that are  
15   nonbacterial in origin.

16          Q.    Okay.

17          A.    Yeah.

18          Q.    So -- but let's get back to what a  
19   MERV 14 filter is. According to your report, a  
20   MERV 14 filter -- and we'll take out the word  
21   "bacterial" this time.

22          A.    Yeah.

23          Q.    A MERV 14 filter can remove all particle  
24   sizes within .3 to 1 micron; correct?

25          A.    Yeah.

1 Q. Okay.

2 MR. GORDON: I think you said .1  
3 to 3 to 4.

4 MR. BANKSTON: Let's do that again  
5 for the record actually.

6 MR. GORDON: I think you said .3  
7 to .1.

8 MR. ASSAAD: He said...

9 MR. BANKSTON: Yeah, I think  
10 you're -- I think you're exactly right.

11 Q. So I'm going to ask you that again just  
12 so we have it for the record, okay, which is that  
13 if the Bair Hugger has a MERV 14 filter, that means  
14 that filter should be capable of removing all  
15 particles sized within .3 to 1 micron; correct?

16 A. That's -- that's what the filter specs  
17 claims to be.

18 Q. Okay. And, according to you, that  
19 MERV 14 filter would be adequate?

20 A. Hmm hmm.

21 Q. Okay.

22 MR. GORDON: For the  
23 court reporter you need to answer "yes" or "no."

24 A. Yes.

25 MR. BANKSTON: Can you give me

1 Tab 10 out of here, man? Oh, darn it, I don't have  
2 my list in front of me. No, I do. I'm perfect.

3 No, I have -- that's just for  
4 Corey. This one is for the witness. And I have --  
5 this one is premarked so I'm okay.

6 Corey, that's for you. And that's  
7 360. It's Tan's efficiency report.

8 MR. GORDON: What's 360?

9 MR. BANKSTON: It's Exhibit 360.

10 MR. ASSAAD: It was previously  
11 marked in another deposition.

12 MR. BANKSTON: Yeah. It's been in  
13 another deposition.

14 MR. GORDON: Oh. Have you been  
15 doing sequential numbering in other depositions?

16 MR. ASSAAD: Yes.

17 MR. BANKSTON: We had, and I'll --

18 MR. ASSAAD: You guys have.

19 MR. BANKSTON: Yeah. And then --  
20 and then you know what's weird is the plaintiffs  
21 didn't in a couple of depositions.

22 MR. GORDON: This is off the  
23 record.

24 MR. BANKSTON: Yeah, this is all  
25 off the record. I'm sorry.

1 THE VIDEOGRAPHER: We are going off the  
2 record.

3 MR. BANKSTON: Yeah, let's go off  
4 for just a second, actually.

5 THE VIDEOGRAPHER: The time is  
6 9:12 a.m.

7 (DISCUSSION OFF THE RECORD)

8 (ADJOURNMENT)

9 THE VIDEOGRAPHER: We are back on  
10 record, and the time is 9:20 a.m.

11 BY MR. BANKSTON

12 Q. All right, Mr. Ho. I'm going to hand  
13 you this document. This document has been  
14 previously marked in this litigation as  
15 Exhibit 360, and I want to take a look at it with  
16 you. You'll see on the first page of this  
17 document, correct, it has a document title?

18 A. The title is "Test Report."

19 Q. I'm sorry. I believe you have the first  
20 page in your other hand.

21 A. Oh.

22 Q. Do you see where we have "Document  
23 Name," "Document Title" up at the top of the  
24 report?

25 A. "The purpose..."

1 Q. Yes. Yes. So you understand that this  
2 purpose is to provide an assessment of the filter  
3 efficiency on the Bair Hugger system and the  
4 efficiency level of the current filters? Do you  
5 see that's what this document says?

6 A. Right.

7 Q. And you see how there is a  
8 "3M Confidential" up at the top of the document?

9 A. Hmm hmm.

10 Q. Okay. On the bottom of -- the bottom  
11 corner of this document you'll see a number that  
12 starts with 3MBH; correct?

13 A. Right.

14 Q. Okay. And the number here starts with  
15 89. The part of this document that I would like to  
16 ask you about today is going to be -- the final  
17 numbers are going to be 96. So if you can flip to  
18 96 for me. That's the part I would like to ask you  
19 a question about.

20 Okay. Perfect. Now, you see that  
21 there's been a portion of that document that's been  
22 highlighted that reads "Table 3. No load (initial)  
23 tests for Model 775 filter." Do you see where that  
24 is?

25 A. Yeah.



1 Q. Okay. And you see that here is a table  
2 that underneath that title says "775, % Efficiency,  
3 48 cfm." Do you see where it says that? Directly  
4 below where it says "Table 3."

5 A. Yeah.

6 Q. Okay. You understand that 48 CFM is  
7 cubic feet per metre? Have you seen that  
8 abbreviation before?

9 A. Right.

10 Q. Oh, excuse me. That abbreviation being  
11 cubic feet per minute?

12 A. Right.

13 Q. Okay.

14 A. What did you first say?

15 Q. I said "metre," actually. And that  
16 doesn't make any sense because cubic feet per metre  
17 makes no sense at all.

18 A. No.

19 Q. But, yeah. So what we're looking at  
20 here is 48 cubic feet per minute. Do you -- do you  
21 know if that's the flow rate of the Bair Hugger  
22 device? Did you know that before seeing this  
23 document?

24 A. I got the impression that's what it is.

25 Q. Okay. Now, below that we see some

1 tables, and I want to talk about what would be the  
2 Y axis -- axis of these tables. And do you see  
3 where there's micron measurements down the Y axis?

4 A. Are you referring to the 1, 2, 3, 4, 5,  
5 and so on?

6 Q. No, sir. No, sir. I'm actually -- and  
7 the "Y" meaning the vertical. I mean the section  
8 on the far left where there are micron  
9 measurements. Do you see, for instance, on each  
10 test it is divided into three parts for .3 to  
11 1 micron?

12 A. Yeah.

13 Q. 1 to 3 microns?

14 A. Yeah.

15 Q. 3 to 10 microns; right?

16 A. Yeah.

17 Q. These are three different categories of  
18 particle sizes; correct?

19 A. Right.

20 Q. Okay. And you see in the table there  
21 are efficiency numbers expressed in percentage for  
22 tests of filters. Do you see those percentage  
23 efficiencies?

24 A. Yeah.

25 Q. Would you agree with me that, reading

1 this table, the Bair Hugger filter does not remove  
2 all particle sizes within .3 to 1 micron?

3 A. That's what it says.

4 Q. Correct. In fact you would also agree  
5 with me that the Bair Hugger filter does not even  
6 remove all particles between 1 and 3 microns;  
7 correct?

8 A. Right.

9 Q. Now, that's a little bit different than  
10 the standard specification that you discussed in  
11 your report; correct?

12 MR. GORDON: I object to the form  
13 of the question. It misstates the evidence.

14 A. Are you referring to the 99 percent  
15 numbers?

16 BY MR. BANKSTON

17 Q. No. What I'm actually referring to is  
18 remember when you told me that a MERV 14 filter by  
19 specification will remove all particles sized .3 to  
20 1 micron? Do you remember telling me that?

21 A. Right.

22 Q. Now, that is not -- this Bair Hugger  
23 filter test that you have in front of you, that  
24 does not meet that standard, does it?

25 A. It does appear to be slightly different.

1 Q. In other words, from this chart we can  
2 see -- let's go down all four lots that were  
3 tested. In the first lot it only removed  
4 83 percent of those particles; correct?

5 A. Yeah.

6 Q. In the second test it only removed  
7 82 percent; correct?

8 A. Yeah.

9 Q. In the next test it only removed  
10 75 percent; correct?

11 A. Yeah.

12 Q. And in the next test it only removed  
13 78 percent; correct?

14 A. Correct.

15 Q. So it does not meet the standard in  
16 which you expressed in your report; correct?

17 A. Right.

18 Q. Okay. Thanks. Are you familiar with  
19 what a HEPA filter is?

20 A. Yes.

21 Q. Okay. Are you familiar with the  
22 specifications for a HEPA filter?

23 A. I don't have the numbers handy, but in  
24 general.

25 Q. Let me throw out a number and see if it

1 is something that you know about. If I was to say  
2 that a HEPA filter can filter out 99.97 percent of  
3 particles at .3 microns, is that around the range  
4 that you would expect a HEPA to perform or would  
5 you have a different standard, or do you know?

6 A. Maybe I don't.

7 Q. Okay. In terms of a MERV 14 filter, you  
8 would also agree with me that a MERV 14 filter will  
9 allow as much as 3 percent of all staph organisms  
10 to pass through it?

11 A. That's a very specific question.

12 Q. It is.

13 A. And I'm not exactly sure if I could  
14 competently answer that question.

15 Q. You might be able to if you look at  
16 page 16 of your report. Do you want to flip to  
17 that with me, page 16? All right. I'm going to  
18 direct you to the second paragraph on that page.

19 A. Yeah.

20 Q. Do you see the middle of the paragraph  
21 where you cite a Table 8.2 of Kowalski?

22 A. Hmm hmm.

23 Q. And in that statement it says a MERV 14  
24 filter will remove staph with 97 percent  
25 efficiency; correct?

1 MR. GORDON: I object to the form  
2 of the question. That is not -- you misread it.

3 BY MR. BANKSTON

4 Q. All right. Let's read the whole thing.  
5 "According to table 8.2 of Kowalski, a MERV 14  
6 filter will remove Staph. aureus with  
7 97% efficiency..." Is that a correct reading of  
8 that?

9 A. Yeah.

10 Q. So by some fairly simple subtraction we  
11 know that 3 percent of staph aureus organisms will  
12 pass through this filter; correct?

13 A. You can assume that.

14 Q. Okay. Do you agree that in selecting a  
15 filter for use in a healthcare setting you need to  
16 know the environment in which it's going to be  
17 used?

18 MR. GORDON: I object to the form  
19 of the question. Vague, ambiguous, lack of  
20 foundation, incomplete hypothetical.

21 A. There is a "but" to that question?

22 BY MR. BANKSTON

23 Q. A "but?"

24 A. Yeah. Do you have some follow-up to  
25 that question?

1 Q. I'm sure I'll have more questions, yeah.

2 A. Yeah. So what is the question again?

3 Q. When you're selecting a filter for use  
4 in a healthcare setting, do you need to know the  
5 environment of use?

6 MR. GORDON: I object to the form  
7 of the question.

8 A. If I were designing an instrument? Is  
9 that what you're saying.

10 BY MR. BANKSTON

11 Q. No. I'm actually asking if you're  
12 selecting a type of filter for use in a healthcare  
13 setting. Not if you're making a device. Like just  
14 if you're picking a filter. If you're going to  
15 pick a filter, do you need to know the environment  
16 it's going to be used in?

17 A. That's sort of a vague question, though,  
18 because it's hard to really answer that question  
19 unless I know what is it that you really want to  
20 point at.

21 Q. Okay.

22 A. There seems to be a second part to that  
23 question, depending on whether the answer is yes or  
24 no.

25 Q. Okay. So in terms of --

1           A.     Come right out to the question and  
2     see --

3           Q.     That's my question. I'm wondering --  
4     let's say I have a job, and my job is to pick a  
5     filter.

6           A.     Pick a filter.

7           Q.     I'm going to pick a filter for an  
8     application.

9           A.     Yeah.

10          Q.     Do I need to know where the filter is  
11     going to be used if I'm going to pick that filter  
12     safely?

13          A.     It would be helpful.

14          Q.     In order to determine if a filter is  
15     safe in a given application, you might need to know  
16     the environment of use; correct?

17          A.     When you say "safe," how would -- how  
18     would that mean? Is that an absolute term or is it  
19     a --

20          Q.     That's a good point.

21          A.     -- is it something that is adequate for  
22     the job?

23          Q.     Yeah. Let's phrase it in the way it's  
24     done in your report, for instance. You say that a  
25     MERV 14 filter is adequate for this application?



1 A. Yeah.

2 Q. I would assume when you speak of  
3 "adequate," that means reasonable in terms of  
4 patient safety as well; right?

5 A. Yeah. That's a bit of a stretch,  
6 though.

7 Q. So let me make sure I have this clear.  
8 When you say that a MERV 14 filter is adequate,  
9 you're not talking about patient safety?

10 A. You -- you really want to narrow it down  
11 to what -- what the issue is at hand.

12 Q. That's absolutely why we're here, yeah.

13 A. Yeah.

14 Q. Right. Okay. So let me ask it again.

15 A. Right.

16 Q. Okay. When you say in your report, your  
17 words, a MERV 14 filter is adequate in this  
18 Bair Hugger --

19 A. Yeah.

20 Q. -- do you mean from a patient safety  
21 point of view?

22 A. A patient safety could be interpreted in  
23 a variety of directions. So in this case you  
24 are -- you're really trying to equate filter X,  
25 safety, yes; filter Y, safety no, and I can't

1 answer that question.

2 Q. Okay. So you cannot give the opinion  
3 that the Bair Hugger filter is adequate from a  
4 patient safety perspective?

5 A. I -- I can say that the filter selected  
6 is adequate for the performance of the instrument.  
7 And I want to take safety out of it because --  
8 because safety is a whole different issue.

9 Q. Okay. So in terms of -- you're a  
10 designer of devices; correct?

11 A. I do some of that, yeah.

12 Q. Okay. And so sometimes when making a  
13 device you have to understand if a component that  
14 you're using in the device is going to have a  
15 negative effect and make your device not work or  
16 whether it will work fine with that component. Is  
17 that simple enough?

18 A. Hmm hmm.

19 Q. Okay. So what I -- oh, is that a yes?

20 A. Yes.

21 Q. And I don't mean to be rude about it.

22 A. Yeah. Yeah.

23 Q. She can't take down --

24 A. Right. Right. Sorry.

25 Q. No problem. So am I correct, when you

1 say the Bair Hugger filter is adequate, that's in  
2 terms of the function of the device?

3 A. Yes.

4 Q. Okay.

5 A. Yeah.

6 Q. So what I want to make sure, so when one  
7 day if we get to trial, is you're not making any  
8 representations to this jury about whether that  
9 Bair Hugger filter is adequate from a patient  
10 safety standpoint?

11 A. Again I like to emphasize the fact that  
12 when you -- when you attach safety and -- and  
13 selection of material, then you are making a very  
14 huge leap in faith in saying that. So -- so I'm  
15 only speaking from the standpoint of an aerobiology  
16 technical person. So the future that is selected  
17 is adequate for what the instrument is supposed to  
18 do.

19 Q. You mean it's adequate for the device to  
20 be able to blow hot air on the patient to warm them  
21 for surgery?

22 A. It's adequate to provide the airflow  
23 characteristics that -- that the end result is  
24 called for.

25 Q. Okay. In terms of is that filter

1 sufficient to provide reasonable assurance that a  
2 patient will not suffer peri-prosthetic joint  
3 infection, that's probably not something you can  
4 talk about today?

5 A. No.

6 Q. Okay. Let me ask that in another way  
7 because I want to be very specific, not just about  
8 peri-prosthetic joint infection. You would agree  
9 with me you do not have the necessary  
10 qualifications and expertise to state the level of  
11 filtration that is needed in the Bair Hugger to  
12 maintain clinically safe levels of air quality in  
13 an ultra clean operating room during an orthopedic  
14 procedure?

15 MR. GORDON: I object to the form  
16 of the question.

17 BY MR. BANKSTON

18 Q. Do you agree with that? And if you need  
19 to, I can repeat it and we can do it again.

20 A. You're saying if I do or do not have an  
21 expertise in designing something?

22 Q. No, no, no. This is very, very specific  
23 so let's go one -- let's go real slow.

24 A. Okay.

25 Q. Okay. What I'm asking is are you

1 qualified -- would you agree with me that you are  
2 not qualified to state the level of filtration --

3 A. State?

4 Q. Yes. To tell me right now what the  
5 level of filtration is that is needed to maintain  
6 clinically safe levels of air quality in an  
7 orthopedic ultra clean operating room?

8 A. You see, there you go. You're attaching  
9 one concept with another --

10 Q. Hmm hmm.

11 A. -- that has got a lot of leaps of faith  
12 in between. So you are, like, attaching --  
13 attaching two kites with some glue together. So  
14 you really --

15 Q. Okay.

16 A. -- can't ask a question like that.

17 Q. All right. So you would agree with me  
18 that if a medical device maker is going to put  
19 something in an operating room, an orthopedic  
20 operating room --

21 A. Yeah.

22 Q. -- he needs to make sure it's clinically  
23 safe, reasonably so? You would agree with that?  
24 Wow. Okay.

25 A. You see, you keep coming back with the

1 word "clinical safety."

2 Q. Hmm hmm. That's important; right?

3 A. It's sort of a -- it's such a layman's  
4 term that it could be taken in 50 directions. So  
5 suddenly you wake up one day and say, "Well, this  
6 is what I mean by clinical safety." And -- and I'm  
7 not sure if that term contained a lot of content in  
8 it. You see, what -- what everybody wants really  
9 in life is absolute perfection.

10 Q. Well, somebody is going to need to make  
11 sure this device is safe, aren't they? You're not  
12 going to put this device into thousands and  
13 thousands and thousands of operating rooms,  
14 millions of surgeries, and have no idea if it's  
15 safe or not? That's not going to happen; right?

16 A. Well, supposing we look at safety in a  
17 different direction. How much safety do you -- do  
18 you expect as a person when you -- when you seek  
19 medical -- when you seek medical help?

20 And let me give you a simple  
21 example.

22 Q. Hmm hmm.

23 A. When you go to a doctor's office and  
24 say, "Well, I'm not feeling good" and the doctor  
25 suspect it is some sort of a microbial or viral

1 infection. Okay. This is something he never tells  
2 you. He takes a sample from wherever it is that is  
3 causing you problems and then he would -- he would  
4 give you some -- some drugs. And he would always  
5 say, "Come back in three days if you don't feel  
6 better." Why does he say that? Did you ever think  
7 about that? Why did he ask you to come back in  
8 three days?

9 Q. I object to the nonresponsive. I object  
10 to the narrative.

11 All right.

12 A. And you don't want to know either.

13 Q. So let's talk about what safe means  
14 clinically. Are you qualified to say what a device  
15 has to do to assure a reasonable level of clinical  
16 safety? Okay. Have you ever seen an orthopedic  
17 implant surgery?

18 A. Have I seen one?

19 Q. Hmm hmm.

20 A. No.

21 Q. Okay. Now, pathogens floating in the  
22 air, biological aerosols floating in the air, they  
23 don't have an indefinite survivability time?  
24 They're going to have a limited survivability when  
25 they're in the air; correct?

1 A. Agreed.

2 Q. They're going to need to find a surface  
3 to stick to; right?

4 A. Why do you say that?

5 Q. If they expect -- if a bacteria expects  
6 to have any good degree of survivability, it's  
7 going to need to find something to stick to, form a  
8 good degree of exopolysaccharides; correct?

9 MR. GORDON: I object to the form  
10 of the question.

11 A. That's not the intent of a -- of a  
12 biological particle.

13 BY MR. BANKSTON

14 Q. Biological particles have intent?

15 A. No.

16 Q. Yeah. They don't have any agency;  
17 right? Like they don't make decisions?

18 A. No. You see, that was the way --

19 Q. Okay. So let me rephrase that a bit.

20 A. -- your question was phrased. Yeah.

21 Q. Okay. So biological particles, the ones  
22 that attach to objects, such as nutrient particles,  
23 such as surfaces, they have better survivability  
24 than particles that float in air?

25 A. Is that said somewhere?



1 Q. Excuse me?

2 A. Is that mentioned somewhere?

3 Q. I'm asking you that.

4 A. The survivability of a particle really  
5 does not rely on sticking on surfaces per se.

6 Q. Okay. So free-floating particles in the  
7 air, they don't have any different survivability,  
8 say, than particles that have formed on an  
9 orthopedic implant and have biofilm on them?

10 MR. GORDON: I object to the form  
11 of the question.

12 A. I don't get --

13 BY MR. BANKSTON

14 Q. What I want to know, because I don't  
15 know --

16 A. Yeah.

17 Q. -- at all --

18 A. Yeah. I don't --

19 Q. -- is, is there a difference in  
20 survivability time --

21 A. Yeah.

22 Q. -- between a particle floating in air --

23 A. Right.

24 Q. -- and a particle attached to a surface  
25 that is coated in exopolysaccharides?

1           A.    You are wanting to know if one would  
2 survive longer than the other?

3           Q.    Hmm hmm.

4           A.    I don't think there's any data that  
5 indicate one way or the other.

6           Q.    Okay. When I talk about  
7 exopolysaccharides, that's also referred to as  
8 biofilm; correct?

9           A.    Did you read my little blurb about --

10          Q.    Oh, I sure did.

11          A.    -- about --

12          Q.    About -- yeah. This guy called it that  
13 but it wasn't really that and then there was the  
14 PhD thesis and all that.

15          A.    Biofilm is -- is almost like a generic  
16 term. It doesn't actually specify what chemical  
17 component it is made of.

18          Q.    Right. So maybe we'll just keep  
19 sticking with exopolysaccharides.

20          A.    Yeah. ESP, yeah.

21          Q.    Our poor court reporter is going to have  
22 to write that every time, but we'll just stick with  
23 that word. Luckily I gave her a spelling for it  
24 before we started, so I knew we were going to talk  
25 about it.

1 MR. GORDON: You could use EPS.

2 BY MR. BANKSTON

3 Q. Yeah, we could -- yeah, EPS. Let's go  
4 to that.

5 A. Yeah.

6 Q. Let's talk about EPS.

7 A. Yeah.

8 Q. You'll agree with me that EPS hampers  
9 immune response?

10 A. Oh, like jumping in, pretty technical.

11 Q. Hmm hmm.

12 A. Why do you say that?

13 Q. Well, I said it because of page 7 of  
14 your report.

15 A. Yeah.

16 Q. So if you go to page 7 of your report,  
17 in the middle -- the very middle of the paragraph.

18 A. Page 7?

19 Q. Hmm hmm. The very middle of the page.  
20 In the very middle of that paragraph, on the very  
21 left side of the paragraph --

22 A. In the middle?

23 Q. In the very middle --

24 A. Yeah.

25 Q. -- you'll see a word that says

1 "polysaccharides." Do you see where it says  
2 "polysaccharides" in the very middle of the  
3 paragraph on the far left?

4 A. Yeah.

5 Q. Okay. And it says polysaccharides can  
6 also provide protection from a wide range of  
7 stresses, such as desiccation and immune effectors.  
8 Correct?

9 A. Yeah.

10 MR. GORDON: Well, it says other  
11 things too.

12 BY MR. BANKSTON

13 Q. Yeah, sure. It says some other stuff  
14 too; right?

15 A. Yes.

16 Q. Okay. In terms of immune effectors, the  
17 body's immune system produces what we could call  
18 effectors that will attempt to attack bacteria;  
19 correct?

20 A. Yeah.

21 Q. And EPS can hamper that process?

22 A. Yes.

23 Q. Okay. Let's talk a little bit about the  
24 environment that the Bair Hugger is used in. And I  
25 believe it's your opinion that there is unlikely to

1 be bacterial growth in this environment of the  
2 Bair Hugger because there is a low humidity. Is  
3 that your opinion?

4 A. Correct.

5 Q. Okay. And I believe that you believe  
6 that that means the contaminant kill rate will be  
7 enhanced what it would normally be above room  
8 temperature, for example?

9 A. Right.

10 Q. Okay. So because it's a dry  
11 environment, that inhibits bacterial growth?

12 A. Right.

13 Q. What do you think the humidity of an  
14 operating room is?

15 A. Are you going to tell me?

16 Q. No. I want you to tell me. You say  
17 it's in a dry environment. What kind of dry  
18 environment are we talking about?

19 MR. GORDON: Now you're -- come  
20 on. You're switching back and forth. He's talking  
21 about -- you just asked him about the Bair Hugger  
22 itself.

23 MR. BANKSTON: Hmm hmm.

24 MR. GORDON: Now you're talking  
25 about the OR environment?

1 MR. BANKSTON: Yeah. I want to  
2 know -- I want to know what the air going into the  
3 Bair Hugger, if it's wet or not.

4 MR. GORDON: Going into?

5 MR. BANKSTON: Yeah, yeah.

6 Q. So the Bair Hugger is used in an  
7 environment. You understand that. And that  
8 environment, according to you, is a warm, dry  
9 environment; correct?

10 A. Right.

11 Q. Okay. So what I want to know is are you  
12 familiar with the level of relative humidity in an  
13 operating room?

14 A. I don't have any numbers to pull out of  
15 a hat.

16 Q. Okay. But it's dry?

17 A. Yeah.

18 MR. GORDON: The operating room  
19 or the Bair Hugger?

20 MR. BANKSTON: I'm -- I'm asking  
21 the question very clearly, very, very clearly. If  
22 you have an objection, just state it.

23 MR. GORDON: I'm literally  
24 confused.

25 BY MR. BANKSTON

1           Q.     Let's go back to the previous question.  
2     The Bair Hugger is used in an environment, and that  
3     environment, according to you, is a dry  
4     environment?

5           MR. GORDON:           Not the Bair Hugger  
6     itself?

7           MR. BANKSTON:        I don't know if  
8     the -- I mean, the surface of the Bair Hugger  
9     might -- it could be dry. Depending on the  
10    environment it's in. I'm dry when I'm in the  
11    desert. When I'm in the Amazon rainforest, I'm  
12    wet. I'm not -- these questions -- I don't want  
13    questions from you anymore, Corey, I want  
14    objections.

15          MR. GORDON:           I just -- well --  
16    are you talking about the environment --

17          MR. BANKSTON:        I'm not going to --

18          MR. GORDON:           -- inside the  
19    Bair Hugger --

20          MR. BANKSTON:        I'm not -- I'm not  
21    being deposed.

22          MR. GORDON:           -- or the  
23    environment in which the Bair Hugger --

24          MR. BANKSTON:        Corey --

25          MR. GORDON:           -- sits?

1 MR. BANKSTON: -- stop asking me  
2 questions, man. I'm not under deposition. If you  
3 have an objection to the question that I just asked  
4 the man, state your objection.

5 MR. GORDON: I object. It's  
6 vague and ambiguous.

7 BY MR. BANKSTON

8 Q. Okay. Sir, the Bair Hugger is used in  
9 an environment, and you contend that's a dry  
10 environment?

11 MR. GORDON: I object to the form  
12 of the question. It misstates his testimony.

13 A. Okay. Continue.

14 BY MR. BANKSTON

15 Q. No, I need an answer. Do you agree with  
16 that? Your opinion is that because it's a dry  
17 environment the contaminant kill rate is enhanced?

18 MR. GORDON: I object to the form  
19 of the question, vague, ambiguous as to what "it"  
20 is.

21 A. Well, there must be a follow-up to this.  
22 Just for the sake of argument --

23 BY MR. BANKSTON

24 Q. Hmm hmm.

25 A. -- the answer is yes. What --



1 Q. Right. So when we talk about a dry  
2 environment --

3 A. Yeah.

4 Q. -- does that mean -- okay. For  
5 instance, have you been outside today?

6 A. We came in from the outside.

7 Q. Okay. Yeah. We didn't -- you didn't --  
8 there wasn't like a skyway thing or something like  
9 that? You went outdoors today?

10 A. Right.

11 Q. Okay. Is the OR drier than outdoors  
12 today?

13 A. Come again.

14 Q. Okay. So you've been outdoors?

15 A. Yeah.

16 Q. You know how humid it was outdoors  
17 today; right? Like you felt -- you felt the  
18 environment?

19 A. That's your opinion.

20 Q. Right. Well, you could look it up. But  
21 I'm just saying generally you know what it is  
22 outside. You've been outside?

23 A. Yeah, yeah.

24 Q. Is an OR drier or wetter than that?

25 A. Okay. This is -- this is where we need

1 to define terminologies.

2 Q. Hmm hmm. What terminology?

3 A. There's always a certain number of  
4 molecules of water in the air.

5 Q. Hmm hmm.

6 A. And relative humidity is a function of  
7 temperature.

8 Q. Hmm hmm.

9 A. So the percent of RH changes according  
10 to temperature.

11 Q. Okay.

12 A. Do you follow?

13 Q. Hmm hmm.

14 A. So -- so if it is RH X in the -- in the  
15 temperature of 25 degrees. And -- and when you  
16 change that temperature with the same liquid  
17 content into 40 degrees --

18 Q. Hmm hmm.

19 A. -- the RH changes, the humidity changes.  
20 So it becomes, in effect, drier.

21 Q. Okay.

22 A. So --

23 Q. So is it -- is it wetter in an operating  
24 room or is it wetter outside?

25 A. Are we getting somewhere?

1 Q. Not to my question. Is it -- is it  
2 wetter in an operating room or wetter outside  
3 today?

4 A. Well, I wouldn't be able to tell you  
5 that because, again, you actually need to -- need  
6 to go do some measurements.

7 Q. All right. Let's say we had some  
8 measurements. Let's say the --

9 A. Some days the air in this area is pretty  
10 dry.

11 Q. Pretty dry, I know. So let's --

12 A. Yeah. Yeah.

13 Q. So let's go with the average relative  
14 humidity of Calgary. Do you know what that is?

15 A. Not really.

16 Q. Would it surprise you if it's  
17 25 percent?

18 A. No, I'm not surprised at all.

19 Q. Yeah, that's not -- in fact we may have  
20 some wetter environment. I'm from Houston.  
21 Houston is 60 percent. It's super wet down there.

22 A. Hmm hmm.

23 Q. But Calgary, around 25 percent.

24 A. Hmm hmm.

25 Q. You wouldn't dispute with me if a

1 desert, like Arizona, is somewhere around  
2 5 percent, something like that?

3 A. Right.

4 Q. An environment like Calgary --

5 A. Yeah.

6 Q. -- in general, in average --

7 A. Right.

8 Q. -- is it wetter or drier than an  
9 operating room?

10 MR. GORDON: I object to the form  
11 of the question, lack of foundation.

12 A. Again, I fail to see how I could give  
13 you a meaningful answer if I haven't been to an  
14 operating room and measured the numbers. And,  
15 also, I don't really know what the air conditioning  
16 system is set for.

17 BY MR. BANKSTON

18 Q. Sure. So -- but you feel comfortable  
19 enough to tell the jury that it's a dry  
20 environment, aren't you?

21 MR. GORDON: I object to the form  
22 of the question. That is not what he has stated.

23 MR. BANKSTON: He can --

24 MR. GORDON: That is not what his  
25 opinions are. He is not here -- he has not

1 expressed an opinion about the environment outside  
2 the Bair Hugger. His opinion, very clearly on  
3 page 14, talks about the interior of the  
4 Bair Hugger.

5 And frankly, counsel --

6 MR. BANKSTON: You know not to do  
7 this.

8 MR. GORDON: Frankly, counsel --  
9 no, you're going --

10 MR. BANKSTON: No, you do.

11 MR. GORDON: -- back and forth  
12 and twisting this --

13 MR. BANKSTON: He can tell me.

14 MR. GORDON: -- and that's really  
15 not fair with this type of a witness.

16 MR. BANKSTON: The one you're  
17 paying to give opinions? Yeah, it's totally fair.

18 MR. GORDON: You can ask him  
19 about the opinions he's given --

20 MR. BANKSTON: How about --

21 MR. GORDON: -- but you're  
22 trying --

23 MR. BANKSTON: -- we just give  
24 evidentiary objections?

25 MR. GORDON: -- to trick him.

1 You're trying to trick him.

2 MR. BANKSTON: Seriously, Corey.  
3 How about we just give evidentiary objections now?  
4 Like let's not do the really unprofessional  
5 speaking objection stuff. Let's move on.

6 MR. GORDON: It's not a speaking  
7 objection.

8 A. Well, let's turn it around. If you --

9 BY MR. BANKSTON

10 Q. There's not a question posed to you  
11 right now, sir. Hold on. Let me ask you a  
12 question.

13 MR. GORDON: Let him ask you a  
14 question.

15 BY MR. BANKSTON

16 Q. There's not any -- there's no testimony  
17 right now.

18 You've told me on a couple of  
19 occasions in this deposition that an OR is a dry  
20 environment, have you not?

21 MR. GORDON: I object to the form  
22 of the question.

23 A. A number of occasions --

24 BY MR. BANKSTON

25 Q. Let's do it this way because I don't

1 want the objection.

2 A. Yeah.

3 Q. Is an OR a dry environment?

4 MR. GORDON: I object to the form  
5 of the question, also lack of foundation.

6 BY MR. BANKSTON

7 Q. Let's put it even more specific. The  
8 air that goes inside of a Bair Hugger --

9 A. Yeah.

10 Q. -- is it dry? Is it wet? Somewhere in  
11 between?

12 MR. GORDON: The same objections.

13 A. Well, if you told me the ultimate aim of  
14 where you want the answer to be, then it would make  
15 some more sense for me to tell you one way or the  
16 other.

17 BY MR. BANKSTON

18 Q. So once you know what it is I'm trying  
19 to prove and how you can avoid falling into that  
20 trap, then you'll answer the question, but  
21 otherwise you won't?

22 MR. GORDON: Come on, counsel.  
23 That's --

24 BY MR. BANKSTON

25 Q. That's exactly what you're saying, isn't

1 it?

2 MR. GORDON: Object. Object.

3 A. I can give you --

4 MR. GORDON: Argumentative.

5 A. -- a proper answer for what is it that  
6 you intend to --

7 BY MR. BANKSTON

8 Q. All I'm asking -- I'm asking a super  
9 simple question that I would expect a scientist of  
10 your calibre to either say "yes," "no," or "I don't  
11 know," --

12 A. Well, you see --

13 Q. -- and that is do you consider the OR to  
14 be a dry environment?

15 A. And that's the thing, is that I already  
16 explained to you what -- what dryness mean and what  
17 RH numbers mean, and dryness is a degree.

18 Q. Hmm hmm.

19 A. When you change the temperature of  
20 the -- of the environment, the RH changes. So is  
21 it dry or not dry? You see, that's -- that's where  
22 you have to put it in your head as to how you  
23 define your terminology, dryness.

24 Q. How do you define it? Is it dry or not,  
25 the OR --



1 MR. GORDON: I object --

2 BY MR. BANKSTON

3 Q. -- the air in the OR?

4 MR. GORDON: I object to the form  
5 of the question, lack of foundation, incomplete  
6 hypothetical.

7 BY MR. BANKSTON

8 Q. Let's put it this way: Are you going to  
9 be giving opinions in this case that the bacterial  
10 growth or whether or not it occurred in that  
11 operating room is affected by the level of humidity  
12 in the operating room?

13 A. Ah. Now you're saying something that's  
14 starting to make sense.

15 Q. Hmm hmm. I hope so.

16 A. Bacterial growth --

17 Q. Hmm hmm.

18 A. -- you mentioned that.

19 Q. Sure.

20 A. Where are you referring to? What --

21 Q. The operating room.

22 MR. GORDON: I object to the form  
23 of the question.

24 A. Why do you -- why are you interested in  
25 bacterial growth in the operating room?

1 BY MR. BANKSTON

2 Q. Because I have 2,000 clients who  
3 suffered incredibly serious post surgical  
4 infections in an operating room.

5 A. Yeah.

6 Q. And I'm interested if somebody is going  
7 to come and say --

8 A. Yeah.

9 Q. -- that the device that I believe hurt  
10 them couldn't have hurt them because there was low  
11 relative humidity and it was dry. If that's your  
12 opinion, I want to know. Is that your opinion?

13 MR. GORDON: I object to the form  
14 of the question, incomplete, vague.

15 A. Are you giving me the impression that in  
16 the operating room there is bacteria actively  
17 growing in there? Is that what you're saying?

18 BY MR. BANKSTON

19 Q. I'm not giving you anything, sir. I'm  
20 asking you questions.

21 A. Yeah.

22 Q. I want to know -- I have clients --

23 A. Yeah.

24 Q. -- who were hurt bad in the operating  
25 room. And from what I understand, you're going to

1 be giving opinions about bacterial growth on  
2 surfaces within that operating room, including the  
3 Bair Hugger. Correct?

4 MR. GORDON: I object to the form  
5 of the question --

6 MR. BANKSTON: Okay.

7 MR. GORDON: -- and that is not  
8 what he is being offered for.

9 MR. BANKSTON: So then that -- then  
10 he can tell me that, Corey. Exactly. He just  
11 shook his head no.

12 A. No.

13 MR. BANKSTON: Because what we said  
14 is I said, "Are there going to be any testimony  
15 about bacterial growth on surfaces or the Bair  
16 Hugger from your opinions --"

17 MR. GORDON: No, you didn't  
18 ask --

19 MR. BANKSTON: -- yes or no.

20 MR. GORDON: -- for the  
21 Bair Hugger. You just -- you asked generally about  
22 the operating room. That's the problem.

23 MR. BANKSTON: No, you're wrong  
24 there, Corey, actually, but that's okay.

25 A. Well, the impression I get from your

1 question was that bacteria will grow in the  
2 operating room at whatever conditions you're  
3 referring to. Is that what you're saying? You  
4 see, you --

5 Q. Not really.

6 A. -- use the term "bacterial growth" --

7 Q. Hmm hmm.

8 A. -- sort of on and off. So are you  
9 really interested in bacteria multiplying,  
10 increasing in numbers?

11 Q. What I'm asking you is are you -- not  
12 what I'm interested in, at all. I'm asking are you  
13 in that report, the opinions that you have set  
14 forth in this case that are going to be submitted  
15 to this jury, are you giving opinions about the  
16 level of relative humidity and wetness and dryness  
17 as relates to bacterial growth? Do you have any  
18 such opinions? If you do, say "yes;" if you don't,  
19 say "no."

20 MR. GORDON: I object to the form  
21 of the question, incomplete, vague.

22 BY MR. BANKSTON

23 Q. You can answer, sir. I'm just getting  
24 some water.

25 A. Well, I -- I don't remember saying or

1 speculating on bacterial growth in an operating  
2 room under any RH conditions.

3 Q. Okay. That shortens our deposition a  
4 lot. That's all I'm asking.

5 A. Yeah.

6 Q. There are no opinions like that in this  
7 case? I don't need to ask you questions about  
8 that?

9 A. Yeah.

10 Q. Okay.

11 A. Yeah.

12 Q. We're good. You recognize that  
13 researchers working with the Bair Hugger have  
14 cultured colony-forming units from the hose of that  
15 unit, from inside the hose?

16 A. There -- there have been reports to that  
17 effect. Is that the answer you're looking for?

18 Q. You -- well, reports. You understand  
19 researchers have found that? There's published  
20 literature on that; correct?

21 A. Well, as I've said somewhere in my -- in  
22 my summary was that the work was so poorly done  
23 that it's very difficult to attach significance to  
24 what was being said.

25 Q. Okay. I understand you don't think much

1 of it, but what I'm asking you is there are  
2 publications in which researchers have cultured  
3 CFUs from inside of a Bair Hugger hose. You may be  
4 critical of them, I understand that --

5 A. Yeah.

6 Q. -- but those papers exist?

7 A. And -- and because I'm critical, I'm  
8 very reluctant to say "yes" or "no" because the  
9 work was badly executed.

10 Q. So every single person who's published  
11 that they found CFUs inside of a Bair Hugger, their  
12 work was badly done?

13 A. Correct.

14 Q. Okay. Yeah. Yeah. No, we're getting  
15 there. Don't worry about that.

16 Did anybody tell you the company  
17 had reports from hospitals that they were culturing  
18 bacteria inside of the Bair Hugger? Has anybody  
19 told you that?

20 A. If you were to tell me that?

21 Q. No. I'm asking if anybody has before I  
22 ever told you that. Has anybody told you that the  
23 company was receiving reports from hospitals that  
24 bacteria was cultured inside of Bair Huggers?

25 MR. ASSAAD: Is that a no?

1 A. No.

2 BY MR. BANKSTON

3 Q. Thank you. Give me Tab 3.

4 Sir, I'm going to hand you what's  
5 been marked as Exhibit 175. This is an email chain  
6 produced by 3M inside -- in this case. And I would  
7 like you to look at the top email for me. Do you  
8 see where it says there was a unit in Texas that  
9 cultured positive? At the very top?

10 A. Yeah.

11 Q. Okay. I would like you to flip to the  
12 very -- it's the second-to-last page. There's a  
13 bit of a part on the last page that hangs over.  
14 It's just an address. Right. Exactly. So if you  
15 would go to the second-to-last page.

16 And you'll see the first email in  
17 this chain. And that would be at the very bottom  
18 of this page.

19 A. Right.

20 Q. Do you see an email from a man  
21 (verbatim) named Judy Hodges?

22 A. Judy Hodges, yeah.

23 Q. Yes. Ms. Hodges says that they have a  
24 model 750 unit and that it's cultured positive for  
25 Acinetobacter.

1 A. Yeah.

2 Q. Correct?

3 A. Yeah.

4 Q. And they say they're looking for  
5 directions for properly cleansing and disinfecting  
6 this machine, inside and out.

7 A. Yeah.

8 Q. Do you see that?

9 A. Yeah.

10 Q. In your opinion, as a microbiologist, if  
11 you have a machine like this that's culturing  
12 positive for Acinetobacter, is it a good idea to  
13 disinfect that machine inside and out?

14 MR. GORDON: I object to the form  
15 of the question, lack of foundation, incomplete  
16 hypothetical.

17 A. Is it a good idea to disinfect the  
18 machine inside and out?

19 BY MR. BANKSTON

20 Q. Hmm hmm.

21 A. How would you propose to do the  
22 disinfection?

23 Q. I'm not an expert in that.

24 A. I'm asking -- I'm coming from the  
25 standpoint from having disinfected instruments



1 before.

2 Q. Hmm hmm.

3 A. It's not an easy thing to do.

4 Q. All right. Okay. Is it a good idea,  
5 though?

6 MR. GORDON: I object to the form  
7 of the question, lack of foundation.

8 BY MR. BANKSTON

9 Q. And I know it's not easy. Some things  
10 in life are difficult. They're kind of important.  
11 Is -- is making sure that your device isn't  
12 culturing Acinetobacter inside of it, is that  
13 important or not important?

14 MR. GORDON: The same objections.

15 A. It depends on what you intend to do with  
16 the machine afterwards.

17 BY MR. BANKSTON

18 Q. Let's say afterwards you intend to blow  
19 on 48 cubic feet per minute of air and blow it at a  
20 patient. Is it a good idea then to disinfect the  
21 machine inside and out?

22 MR. GORDON: I object to the form  
23 of the question, lack of foundation, incomplete  
24 hypothetical.

25 A. It might have been easier to use a

1 different machine.

2 BY MR. BANKSTON

3 Q. Okay. Such as?

4 A. Get a new one.

5 Q. Oh, a new Bair Hugger?

6 A. Yeah.

7 Q. Okay.

8 A. Yeah.

9 Q. So if you have Bair Huggers that have  
10 internal growth in them, the easiest solution is  
11 just swap out the machine?

12 MR. GORDON: I object to the form  
13 of the question, lack of foundation.

14 A. Internal growth now. Maybe you're  
15 not -- you're not familiar with the terminology  
16 so --

17 BY MR. BANKSTON

18 Q. Okay.

19 A. -- when you're describing things that  
20 are growing, they are actually multiplying.

21 Q. Okay.

22 A. There is no indication that anything is  
23 growing per se.

24 Q. Okay. Let's use the language in the  
25 document we've been looking at then.

1 A. Yeah.

2 Q. If you have a device and you've cultured  
3 it inside and you know it has Acinetobacter in it,  
4 it's a good idea to just -- if it's difficult to  
5 clean, the best idea might just be to switch out  
6 the unit?

7 A. Use a different machine.

8 Q. Okay.

9 A. Yeah.

10 Q. And why would you want to do that?

11 A. I suppose it's due diligence.

12 Q. Correct. Because Acinetobacter can hurt  
13 people; right?

14 MR. GORDON: I object to the form  
15 of the question, strike counsel's comment.

16 A. I don't know. I don't know how it would  
17 be used under -- under the conditions because  
18 not -- you are just using the blanket assumption  
19 that any -- the presence of any single bacterium  
20 would eventually lead to some dire consequences,  
21 and you cannot say that.

22 BY MR. BANKSTON

23 Q. Do you know how much bacteria it will  
24 take to lead to dire circumstances?

25 A. Ha. I knew somebody would ask those

1 questions like that.

2 Q. Yeah. You thought it might be. It may  
3 be in a case involving bacteria infecting patients  
4 that could have come up. Are you familiar with  
5 what is a dangerous level of bacteria to be pumping  
6 into the environment?

7 MR. GORDON: I object to the form  
8 of the question.

9 A. There is no simple answer for that  
10 question.

11 BY MR. BANKSTON

12 Q. Okay. You were not given any documents  
13 related to something called ion armor, were you?

14 A. No.

15 Q. Okay. Are you familiar with the use of  
16 silver ion coatings to prevent bacterial growth?

17 A. I heard about it, but I've done no work  
18 on it.

19 Q. Were you aware of proposals for a  
20 Bair Hugger device which featured silver ion to  
21 prevent bacterial contamination?

22 A. No.

23 Q. Were you aware of any proposals for a  
24 design of this device that contained disinfected  
25 aerosols incorporated into the device?

1 A. No.

2 Q. In your opinion -- do you have any  
3 opinion about the Bair Hugger gets used, then it  
4 sits idle between surgeries, it sits in a room. Do  
5 you have any opinion about whether bacterial growth  
6 can occur in the Bair Hugger during those periods?

7 MR. GORDON: I object to the form  
8 of the question, incomplete hypothetical.

9 A. Let me try to understand what is it that  
10 you're asking here.

11 BY MR. BANKSTON

12 Q. Hmm hmm.

13 A. Do bacteria grow with no nutrients? Is  
14 that what you're saying?

15 Q. No, I'm not saying that. I'm wondering  
16 do they grow in the Bair Hugger.

17 MR. GORDON: The same objections.

18 A. Bacteria don't grow by themselves.

19 BY MR. BANKSTON

20 Q. Sure. Okay.

21 A. Yeah.

22 Q. So do they grow in the Bair Hugger?

23 Well, let's start -- let's start simple. Can  
24 bacteria grow on this table?

25 A. No.

1 Q. No way -- there's no bacteria on this  
2 table right now?

3 A. I didn't say that.

4 Q. Okay. So there could be bacteria, but  
5 it can't multiply while on this table?

6 A. Correct.

7 Q. Okay. Because bacteria needs nutrients;  
8 right?

9 A. Correct.

10 Q. Okay. So what would be a nutrient for  
11 bacteria?

12 A. Sugar.

13 Q. Organic matter generally?

14 A. No.

15 Q. So not all organic matter contains what  
16 bacteria need, particularly glucose or sugar, to  
17 grow; correct?

18 A. Yeah, yeah.

19 Q. Okay. Is it your opinion that there is  
20 no nutrients within the Bair Hugger for bacteria to  
21 grow?

22 A. You can make that assumption.

23 Q. Okay. So it is your opinion that  
24 bacteria does not grow in the Bair Hugger between  
25 uses?

1           A.    You can make that -- you can make that  
2   assumption.

3           Q.    Okay.  Are you relying on anything in  
4   particular to have that opinion or is that just a  
5   general -- something --

6           A.    Come again.

7           Q.    Are you relying on anything in  
8   particular for that opinion or is that just  
9   generally something you know?

10                   Give me Tab 9.

11           A.    Well, that's a primary dog mark  
12   (phonetic) of life systems, isn't it?  If you --  
13   for yourself if you were given no nutrient for the  
14   period of time, you will fail to reproduce  
15   yourself.

16           Q.    What I'm more asking is what is your  
17   opinion that there is no nutrient mass inside of a  
18   Bair Hugger at any time, inside of its hose?

19           A.    There shouldn't be any.

20           Q.    Okay.  There shouldn't be; right?

21           A.    Yeah.

22           Q.    Okay.  Are you familiar with what  
23   skin squames are?

24           A.    I've heard of the term.

25           Q.    Yeah.  And bacteria can attach to

1 skin squames?

2 A. Right.

3 Q. They can get nutrients from that?

4 A. I wouldn't be able to expand on that  
5 because...

6 Q. You don't have the expertise to talk  
7 about whether skin squames can support bacterial  
8 growth?

9 A. No. You're going beyond my expertise.

10 Q. Okay. So in terms -- and let me make  
11 sure I have that clear for the record. In terms of  
12 whether bacteria can multiply and grow on  
13 skin squames, you have no opinion?

14 Oh. On our last question we had a  
15 nod, so let me ask it one more time. In terms of  
16 whether bacteria can multiply and grow on  
17 skin squames, you have no opinion?

18 A. No opinions.

19 Q. Okay. All right, sir. I'm going to  
20 hand you this document here, which has been  
21 previously marked in this litigation as  
22 Exhibit 296. I want to direct your attention to  
23 the second page of the document, and you will see  
24 an email by a man named Mr. Craig Oster. Do you  
25 see that?



1 A. I see that.

2 Q. Okay. And you see here he's the senior  
3 technical manager of the 3M infection prevention  
4 division; correct?

5 A. Right.

6 Q. Okay. Mr. Oster asks in his email:  
7 "Could we put a antimicrobial  
8 coating inside of our Bair Hugger  
9 and Bair PAWS warming hoses? I  
10 suspect that bacterial grown may  
11 occur between uses."

12 Do you see where he says that?

13 A. Item 1?

14 Q. Yes.

15 A. I see that.

16 Q. Okay. You understand there's been a  
17 following email on the first page, someone is  
18 responding to him on the first page? Do you see  
19 that email?

20 A. On the first page?

21 Q. Yes, sir.

22 A. Yeah. There's some highlighted  
23 material.

24 Q. Sure. So we have here an email from a  
25 Ranjani Parthasarathy, who is listed here as a

1 senior research specialist; correct?

2 A. Hmm hmm.

3 Q. Okay. And do you see where he says: "I  
4 think it's possible to do this, to put  
5 antimicrobial coatings and put that on the  
6 Bair Hugger." Do you see where he says that?

7 A. I see that.

8 Q. Okay. And he follows that by saying:  
9 "...I think that realistically  
10 speaking you would need [a]  
11 reasonable residence time (at least  
12 15 minutes) and humid air to do a  
13 decent job of bacterial kill."

14 Do you agree with that statement?

15 MR. GORDON: I object to the form  
16 of the question, lack of foundation, an incomplete  
17 hypothetical, it assumes facts not in evidence.

18 A. Why do I need to agree with that  
19 statement?

20 BY MR. BANKSTON

21 Q. Because I asked you if you do or not. I  
22 mean, you don't have to agree. I'm just asking you  
23 if you do.

24 A. It's an opinion made by somebody whose  
25 expertise I'm not familiar with.

1 Q. Sure. Okay.

2 A. I think I have a neutral opinion on it.

3 Q. Okay. So in terms of whether it's going  
4 to take a reasonable residence time and humid air  
5 to do a decent job of bacterial kill with an  
6 antimicrobial, that's not something that you're  
7 going to be talking to the jury about in this case?

8 A. No.

9 Q. Okay. The next sentence says: "It may  
10 be that you really make a difference between uses,  
11 like you suggested." And you understand that the  
12 difference he's talking about is inhibiting  
13 bacterial growth; correct?

14 MR. GORDON: Objection, lack of  
15 foundation.

16 A. Again, I cannot have an opinion on  
17 something out of the blue. It would be useful to  
18 know exactly what kind of an expertise Ranjani  
19 might have --

20 Q. Hmm hmm.

21 A. -- what -- what is his real intent and  
22 thrust in saying things.

23 BY MR. BANKSTON

24 Q. Well, what I guess I'm asking you is --

25 A. Yeah.

1 Q. -- these two gentlemen are working on  
2 ways to inhibit bacterial growth on the  
3 Bair Hugger; correct?

4 MR. GORDON: Objection, lack of  
5 foundation.

6 A. It would appear to be so. Why?

7 BY MR. BANKSTON

8 Q. Okay.

9 A. Yeah.

10 Q. According to you that is a fruitless  
11 enterprise, there is no reason to do that?

12 A. I didn't say that.

13 Q. I'm ask -- that's what I'm asking you.  
14 You can tell me if that's okay.

15 A. I'm simply saying that I'm neutral on  
16 that opinion. People could have a lot of idle  
17 speculations, idle talks, and it is really unfair  
18 for me to actually make an -- make an opinion on  
19 that.

20 Q. Okay. So when we're talking about  
21 bacterial growth inside of the Bair Hugger --

22 A. Yeah.

23 Q. -- which these two gentlemen are talking  
24 about --

25 A. Yeah.

1 Q. -- is your opinion that it can happen?  
2 It can't happen? It might happen? What is your  
3 opinion on that?

4 MR. GORDON: Objection,  
5 incomplete hypothetical.

6 A. I have no opinion on it.

7 BY MR. BANKSTON

8 Q. Okay. No opinion on that?

9 A. Yeah.

10 Q. Now, I do believe that one of your  
11 opinions in this case is that after you've looked  
12 at the evidence in this case that you believe that  
13 few, if any, particles are going to be emitted from  
14 the Bair Hugger during its operation?

15 MR. GORDON: I object to the form  
16 of the question, vague.

17 A. It might be fair to say that, from what  
18 I understand the situation to be, there would be  
19 few, if any, particles would come out from the air  
20 delivery hose.

21 BY MR. BANKSTON

22 Q. You could have tested this with your  
23 scientific instruments, couldn't you?

24 A. I suppose.

25 Q. In fact, plaintiffs' experts have tested

1 this. You've reviewed that?

2 A. And that -- it comes right back to what  
3 my original assertion was.

4 Q. Hmm hmm.

5 A. That people who have made measurements  
6 didn't do it correctly.

7 Q. Okay. I thought that was about  
8 Mr. Albrecht in collecting colony-forming units.  
9 Is that right? Do you remember we were talking  
10 about that?

11 A. Yeah.

12 Q. So you're also saying that also applies  
13 to plaintiffs' experts who conducted particle  
14 testing in this case?

15 A. Hmm hmm. Yes.

16 Q. Okay. They didn't do it right?

17 A. No.

18 Q. Okay. They disagree with you. There  
19 are people who have tested this, and they have  
20 results that disagree with you, and you criticize  
21 their findings. That's where we're at right now?

22 MR. GORDON: I object to the form  
23 of the question, vague.

24 A. I come from a fairly rigorous regime  
25 where in order to make a claim or an assertion, we

1 actually do a lot of work and serious work before  
2 it is done.

3 BY MR. BANKSTON

4 Q. Okay.

5 A. So set by those standards, none of the  
6 ones that have been demonstrated actually meet the  
7 requirements of standards that we're used to.

8 Q. Okay. So let's walk through that really  
9 quick.

10 A. Yeah.

11 Q. Before you give an opinion --

12 A. Yeah.

13 Q. You come from what I believe you said is  
14 a rigorous background; right?

15 A. Correct.

16 Q. Before you give opinion there has to be  
17 a lot of work done? Maybe let's instead of work,  
18 let's call it scientific methodology. Are you  
19 familiar with that phrase? You've heard that  
20 before?

21 A. Yeah. That's a nice fuzzy term used by  
22 laymen.

23 Q. Sure. Okay. Well, for my lay  
24 purposes --

25 A. Yeah.

1 Q. -- for instance, you're critical of the  
2 scientific methodology of some people who have done  
3 work on the Bair Hugger; right?

4 A. Yes, I'm critical.

5 Q. But in terms of what you're saying,  
6 you're saying that to give an opinion about  
7 something you have to do some rigorous work to be  
8 able to support that opinion. And they didn't do  
9 that rigorous work is what you're saying?

10 A. I say that from what they have said they  
11 have done they couldn't make the statements and the  
12 claims that they did.

13 Q. All right. Now, you're making the claim  
14 that few, if any, particles will be expelled from  
15 the Bair Hugger?

16 MR. GORDON: I object to the form  
17 of the question, vague, misstates his testimony,  
18 and you're confusing things. And I know --

19 MR. BANKSTON: That's not --

20 MR. GORDON: -- you're  
21 intentionally doing it.

22 MR. BANKSTON: -- an objection.

23 Q. I'm sorry. Do you find that I'm  
24 confusing you, sir? Am I -- am I bamboozling you?

25 A. Well, you -- you didn't give me a clear



1 indication as to where you are driving at when you  
2 are asking a question because --

3 Q. Yeah, I'm not going to do that.

4 A. -- your questions are -- your questions  
5 could form either of three directions. So for me  
6 to give you an answer that is truthful --

7 Q. Okay. So let's look at the question  
8 again.

9 A. -- your question cannot -- doesn't draw  
10 that out.

11 Q. Do you have the opinion that when  
12 operating the Bair Hugger will expel few, if any,  
13 particles? Is that your opinion?

14 MR. GORDON: In light of the  
15 history I have to object on the grounds of  
16 vagueness.

17 BY MR. BANKSTON

18 Q. Is that your opinion or not? I mean, is  
19 that a confusing question to you? Is there a way I  
20 can make that question less confusing? Because I  
21 genuinely want to know is it your opinion that in  
22 operation the Bair Hugger will expel few, if any,  
23 particles?

24 A. Let's for the sake of argument the  
25 answer is yes.

1           Q.     I don't want argument. I want what are  
2     your opinions. Is that one of your opinions in  
3     this case? I mean, you're here to provide expert  
4     testimony to assist this jury. As part of that  
5     assistance are you going to be telling the jury  
6     that few, if any, particles are expelled from the  
7     Bair Hugger during its operation?

8           MR. GORDON:           Objection. Vague as  
9     to what "particles" are meant, because you've been  
10    going back and forth on that. You're reading from  
11    his report. He uses the word part -- he uses the  
12    phrase -- the word "particles," but he uses it  
13    differently than you've been going back and forth.

14          MR. BANKSTON:        One day maybe we'll  
15    get an answer to here.

16          Q.     Do you have an opinion -- you understand  
17    that there are experts on the other side that you  
18    are critical of who say there are particles coming  
19    out of the Bair Hugger and they provide size  
20    distributions of those particles? You understand  
21    that that is one of the reports you reviewed;  
22    correct?

23          A.     One of the -- one of the workers took an  
24    optical particle counter --

25          Q.     Okay.

1           A.    -- and reported on high numbers of  
2 particles coming out of the -- out of the output  
3 hose. That's what he reported.

4           Q.    Okay. So you --

5           A.    So what is it that you're really wanting  
6 to know?

7           Q.    So that -- so we have that. He has that  
8 opinion?

9           A.    Yeah.

10          Q.    He reported particles?

11          A.    Yeah.

12          Q.    And you've been critical of that report?

13          A.    Yeah.

14          Q.    My question is there can be two  
15 different ways to approach that sort of thing. You  
16 can say, "No, he did that wrong. You can't make  
17 that finding. And in fact I don't know, nobody  
18 knows." Or there could be a second way where you,  
19 expert, Mr. Ho, are saying to this jury --

20          A.    Okay.

21          Q.    -- "I'm an expert and, trust me, folks,  
22 few, if any, particles are going to be coming out  
23 of the Bair Hugger." Is that your --

24                   MR. GORDON:                   And there is  
25 actually another option too.

1 BY MR. BANKSTON

2 Q. And you can tell me that.

3 A. If you were to allow me to deviate from  
4 optical particle counter usage, I would tell you  
5 how instruments of that nature are calibrated.

6 Q. I have zero interest in that.

7 A. Well, you --

8 Q. I am trying to get a super simple  
9 question.

10 A. You got to -- you got to have some depth  
11 of knowledge before --

12 Q. Did you use an optical particle counter  
13 in this case?

14 A. I did not.

15 Q. Then I do not care about an optical  
16 particle counter. What I'm asking, you, sir --

17 A. Yeah.

18 Q. -- is do you have the opinion? And if  
19 you do, tell me. If you don't, tell me. If it's  
20 more complicated and you have something like an  
21 opinion, tell me.

22 A. I'm telling -- I'm going to try to tell  
23 you but you didn't want to hear.

24 Q. I don't want to hear about optical  
25 particle counting because you didn't do it, did

1     you, sir?

2             A.     Because --

3             Q.     You could have, too.  Couldn't you have  
4     done optical particle counting?

5             A.     Because one of the reports used OPC.  
6     And I'm trying to tell you what are the pitfalls of  
7     looking at raw data --

8             Q.     Once again we can save a lot of time by  
9     first having the question of do you have this  
10    opinion.  If you don't have this opinion, we don't  
11    even have to talk about it.  We can -- we can skip  
12    all of this.  And all I'm asking you -- let's make  
13    it super simple.

14            A.     Yeah.

15            Q.     When it comes to do particles come out  
16    of the Bair Hugger, do you have any opinion that's  
17    in any way relevant to that?

18                   MR. GORDON:             Objection, vague as  
19    to what you mean by "particles."

20                   BY MR. BANKSTON

21            Q.     I have to get super vague at this point.  
22    I'm talking everything under the sun.  Because if I  
23    get specific here, we're going down a different  
24    road.

25                                 What I'm saying is when it comes to

1 do particles come out of the Bair Hugger or not, do  
2 you have any kind of opinion under the sun about  
3 that?

4 A. Well, if you're wanting to know if I  
5 measured the Bair Hugger, the answer is no.

6 Q. That's not what I'm asking. I'm asking  
7 do you have an opinion about whether particles come  
8 out of it?

9 MR. GORDON: Any kind of  
10 particles?

11 MR. BANKSTON: Yeah.

12 MR. GORDON: Any size, whether  
13 they're biologically active or not?

14 MR. BANKSTON: Yeah.

15 MR. GORDON: Okay.

16 MR. BANKSTON: That's a fair  
17 interpretation of when I say the word "particles."

18 MR. GORDON: Well... Okay.

19 MR. BANKSTON: Because if --

20 MR. GORDON: Then if that's what  
21 you mean by "particles, then that's one thing.

22 BY MR. BANKSTON

23 Q. It's your opinion, isn't it, sir, that  
24 unless subjected to physical disturbance, few, if  
25 any, particles will be emitted during operation?

1 MR. GORDON: Using your  
2 definition of "particles?"

3 MR. BANKSTON: Using his because  
4 that's from his report. Let's go to page 15. I  
5 can't believe I'm pulling teeth like this.

6 Q. Let's go to page 15, sir.

7 A. Yeah. I'm on page 15.

8 Q. You're on page 15?

9 A. Yeah.

10 Q. Do you understand the part of that  
11 page where you talk about whether particles will be  
12 emitted during operation?

13 A. The bottom paragraph or top?

14 Q. The second paragraph, the final  
15 sentence. Do you see that sentence that says in  
16 the second paragraph, final sentence: "Unless  
17 subjected to physical disturbance, few if any  
18 particles will be emitted during operation."

19 I'm just trying to know, is that a  
20 fair statement of your opinion as it's listed there  
21 in your report?

22 MR. GORDON: No. You can't  
23 impose your definition of particles onto what --

24 MR. BANKSTON: I don't even --

25 MR. GORDON: -- he's talking

1 about here.

2 MR. BANKSTON: -- know what you're  
3 talking about, Corey. It says "particles." To me  
4 particles are particles.

5 MR. GORDON: It may be what it is  
6 to you, but in this section he is talking about  
7 microbes.

8 MR. BANKSTON: Don't testify for  
9 him, Corey. What are you doing?

10 MR. GORDON: This whole section  
11 is about microbes.

12 MR. BANKSTON: That's what he's  
13 supposed to tell me. You're supposed to sit there  
14 and give objections. You're supposed to --

15 MR. GORDON: Okay.

16 MR. BANKSTON: -- not interfere  
17 with testimony before a sworn tribunal. And,  
18 frankly, I find what you're doing to be really,  
19 really distasteful.

20 MR. GORDON: I want to believe  
21 that you're asking in good faith.

22 MR. BANKSTON: Look, you -- if you  
23 want to look at --

24 MR. GORDON: You're using a  
25 definition of "particles," then taking the word out



1 of context and imposing your definition on it.

2 MR. BANKSTON: That's the kind of  
3 discussions me and this technical witness should  
4 have. And if you would look at the history of this  
5 case --

6 A. Okay. Why do we --

7 MR. BANKSTON: -- and see who has  
8 been sanctioned for doing the exact same conduct  
9 you're doing right now. I will not hesitate to  
10 have that happen again.

11 A. Why don't you make it clear --

12 MR. BANKSTON: Excuse me, sir.  
13 Hold on. You don't have a question to you right  
14 now.

15 I will state it for the record  
16 right now I've tried to have extraordinary patience  
17 of speaking objections generally in this case, but  
18 I will not have any more tolerance for them. That  
19 is -- if this keeps on going on like this, where  
20 we're instructing the witness and coaching the  
21 witness, I will bring this up with the Court.

22 Q. Mr. Ho, in that paragraph, what I'm  
23 asking you is the final sentence of that paragraph,  
24 is that an accurate statement of your opinion or do  
25 you need to add something or change it?

1           A.     I would like it when you ask me a  
2     question about particles, are you specifically  
3     referring to biological particles?

4           Q.     You tell me that.

5           A.     Okay.

6           Q.     This is your sentence, sir. You wrote  
7     this. You wrote this down. "Unless subjected to  
8     physical disturbance, few if any particles will be  
9     emitted during operation." Is that accurate?

10          A.     The -- the implication was that few, if  
11     any, biological particles would come out.

12          Q.     All right. So a more accurate statement  
13     of your opinion would be to put the word  
14     "biological" before "particles" in that sentence?

15          A.     Well, a lot of times when you write a  
16     series of connected items, you don't always --

17          Q.     I get you.

18          A.     -- have to --

19          Q.     So when we pull this out in isolation,  
20     in order to provide context, it would read better  
21     if we put "biological" because this paragraph is  
22     talking about bacteria and biological; correct?

23          A.     It would be nice if people could connect  
24     the two phenomena.

25          Q.     All right. So your opinion is that few,

1 if any, biological particles are going to be  
2 emitted during operation?

3 A. Yes.

4 Q. Is that fair?

5 A. Hmm hmm.

6 Q. Okay. What work did you do, what  
7 rigorous methodology did you employ to arrive at  
8 that opinion?

9 A. Well, you already know that I haven't  
10 worked with the Bair Hugger. Correct?

11 Q. I already know that you did what with  
12 the Bair Hugger?

13 A. That I hadn't worked with the  
14 Bair Hugger.

15 Q. Okay. So you did no work with the  
16 Bair Hugger?

17 A. Yeah.

18 Q. Okay.

19 A. So -- so where is your question leading  
20 to?

21 Q. The fact that you -- so you haven't done  
22 any work to support this opinion?

23 A. To the Bair Hugger?

24 Q. To the Bair Hugger, correct.

25 A. Yeah.

1 Q. Well, you're giving an opinion about the  
2 Bair Hugger; right?

3 A. I'm -- I'm giving you an opinion about  
4 how particles would behave in a -- in a  
5 hypothetical situation where there are tubings,  
6 hoses, and other -- other intervening devices.

7 Q. The word "operation" in that sentence,  
8 what does that refer to? Operation of what? On  
9 page -- on page 15 right here. The final sentence  
10 of that. "...few if any particles will be emitted  
11 during the operation" of the Bair Hugger; correct?  
12 Correct?

13 A. What is it you're driving at then?

14 Q. That the word "operation" refers to the  
15 Bair Hugger; correct?

16 A. Yeah. The Bair --

17 Q. Okay.

18 A. Yeah, yeah.

19 Q. So when you say that "few if any  
20 particles will be emitted during operation," this  
21 is an opinion about the Bair Hugger device?

22 A. That's an opinion.

23 Q. You have never touched the Bair Hugger  
24 device?

25 A. That's right.

1 Q. You have conducted no scientific testing  
2 whatsoever to support that opinion?

3 A. Right.

4 Q. You are not citing any scientific  
5 literature of people --

6 A. No, no --

7 Q. -- who have tested that?

8 A. -- no, you are going too far now.

9 Q. What piece of scientific literature  
10 supports the proposition that few, if any,  
11 particles will be emitted during operation of the  
12 Bair Hugger?

13 A. The... There's a lot of evidence in  
14 suggesting that -- that plastic hose and tubings  
15 retain particles.

16 Q. Where is that in your report? What cite  
17 are you talking about?

18 A. I think it's somewhere regarding Tygon  
19 tubings and PVC tubings.

20 Q. Where is Tygon tubings and PVC tubings  
21 discussed in your report?

22 A. It says somewhere. Hang on a second.

23 Q. Yeah. If you could find me this  
24 discussion of Tybon tubings, I would appreciate  
25 that.

1 MR. GORDON: Did you say Tybon?

2 MR. BANKSTON: Yeah. I don't

3 know --

4 MR. GORDON: It's Tygon.

5 MR. BANKSTON: I don't know what it

6 is. Yeah.

7 MR. GORDON: It's in that same

8 paragraph.

9 MR. BANKSTON: Is it in that  
10 paragraph?

11 MR. GORDON: Yeah.

12 A. Yeah.

13 BY MR. BANKSTON

14 Q. All right, sir. These Tygon tubings.

15 A. Yeah.

16 Q. All right.

17 A. Yeah. Yeah.

18 Q. What does "electrostatic loss" mean?

19 A. Well, particles have a habit of sticking  
20 to plastic material.

21 Q. Okay.

22 A. And the sticking principle has always  
23 been known to be electrostatic charges. Particles  
24 are charged either positively or negatively, and so  
25 they have a tendency to stick to plastics.

1 Q. Perfect. Okay. So this is what I was  
2 trying to find. This is what I was hoping to get  
3 pointed to.

4 A. Yeah.

5 Q. That cites a reference by Asbach et al  
6 in 2016; correct?

7 A. You're referring to the --

8 Q. The report.

9 A. -- plastic tubing --

10 Q. What you're talking about in plastic  
11 tubings and Tygon and Teflon?

12 A. Yeah. Yeah. Yeah.

13 Q. Okay. So that's Asbach et al. Asbach  
14 et al supports your opinion that few, if any,  
15 particles would be emitted during operation?

16 A. We didn't say that. We're simply saying  
17 that -- that --

18 Q. Well, that's the following sentence,  
19 sir. Is that not the support for that?

20 A. -- by nature there is a -- there is a  
21 charge to particles and the tendency is to stick to  
22 plastic tubings.

23 Q. Right. So that finding is what you're  
24 citing in your report --

25 A. Yeah.

1 Q. -- for the next sentence? Right? You  
2 give an opinion in the next sentence?

3 A. That's right.

4 Q. And that opinion is that few, if any,  
5 particles will be emitted?

6 A. That's right.

7 Q. Asbach 2016 is your support for that?

8 A. That's right.

9 Q. Okay. Thank you, sir. Now, Asbach  
10 et al, do you know if that concerned biological  
11 particles?

12 A. Were they using biological particles?

13 Q. Hmm hmm. In Asbach.

14 A. I don't specifically remember.

15 Q. Okay.

16 MR. BANKSTON: Hand me 7 and 8.

17 MR. ASSAAD: 7 and 8?

18 MR. BANKSTON: Yeah, both of them.  
19 They're sequential exhibits.

20 I'm going to offer these in order  
21 so that you all can see that.

22 MR. GORDON: The top one is what?

23 MR. BANKSTON: This is 298 and 299.

24 MR. GORDON: You know, could  
25 you -- I think we should -- I don't think we've



1 done this. Can you read the Bates Nos. in for the  
2 record?

3 MR. BANKSTON: Sure, I can do that.  
4 Yeah. Absolutely.

5 Q. All right. So the first document I put  
6 in front of you, there's a -- they're basically  
7 together. They're two separate exhibits. These  
8 are Exhibits 298 and 299. The first one is a one  
9 page, and you see it's an email that's titled "Reed  
10 publication review?"

11 A. Yeah.

12 Q. And do you see there's a woman who wrote  
13 this email, Michelle Hulse Stevens, MD?

14 A. Right.

15 Q. Have you met her before?

16 A. No.

17 Q. Okay. She's the medical director at  
18 3M's infection prevention division, according to  
19 this email; correct?

20 A. Right.

21 Q. Okay. Do you see where she says in the  
22 first sentence: "I want to thank Al for taking a  
23 look at this study and providing some preliminary  
24 thoughts." Correct?

25 A. I read that.

1 Q. Okay. And then it says: "I am  
2 attaching my comments to Al's(mine are in red)."  
3 Okay?

4 A. Yeah.

5 Q. And the reason I've included this, so  
6 you can understand why there's black and red on the  
7 document I'm going to show you. Okay?

8 A. Right.

9 Q. If you'll flip to -- two pages in,  
10 you'll see the red and black page, the one she's  
11 talking about.

12 A. Yeah.

13 Q. Do you see that?

14 A. I see that.

15 MR. GORDON: Is that 299?

16 Q. MR. BANKSTON: Now we are in 299,  
17 sir. And I'm going to read you this Bates No. Are  
18 you looking at the page -- the page I'm referring  
19 you is 3MBH01617180.

20 A. I see that page.

21 Q. Okay. I would like to direct your  
22 attention to the No. 1 point. You understand that  
23 Ms. Hulse Stevens, the medical director, her  
24 comments are in red, correct, in response --

25 A. Correct.

1 Q. -- right?

2 A. Right.

3 Q. And here we see the statement: "The  
4 assertion that old filters are more efficient  
5 [than] newer ones is correct."

6 Actually, let me read that again.  
7 There's a typo, but I want to make sure we get the  
8 typo right just because I'm reading it. "The  
9 assertion that old filters are more efficient that  
10 newer ones is correct."

11 And I think we can both agree he  
12 means to say "than newer ones;" right?

13 A. Right.

14 Q. The next sentence says:  
15 "The change to new filter material  
16 was dictated by engineering  
17 concerns prior to widespread  
18 appreciation of the importance of  
19 [particles] discharged by the  
20 warming unit."

21 I read that -- I read that correctly?

22 A. Yeah.

23 Q. Okay. Here's the part I want to ask you  
24 about. Dr. Hulse Stevens of 3M writes in response:  
25 "This implies then that the 750

1           does not have a filtration  
2           efficiency that adequately  
3           mitigates particulates in the air  
4           coming out after filtration."

5           Did you see that sentence?

6           A.    I see that sentence.

7           Q.    Okay. To you -- and I don't know if  
8    this is a term of art or if there's any meaningful  
9    difference, but is there any difference in your  
10   mind between the word "particles" and  
11   "particulates?"

12          A.    Do I see a difference?

13          Q.    Yeah. Again, I don't know if there is.  
14   That's just -- in your field of microbiology, is  
15   the word "particle" and "particulate," do they have  
16   separate and different meanings or are they the  
17   same thing?

18          A.    Most of the time they're used  
19   interchangeably.

20          Q.    Okay. You would agree with me that it's  
21   important that the Bair Hugger device has a  
22   filtration efficiency that adequately mitigates  
23   particulates in the air coming out after  
24   filtration? That's important?

25               MR. GORDON:           I object to the form

1 of the question, an incomplete hypothetical and  
2 lack of foundation.

3 A. And the question is?

4 BY MR. BANKSTON

5 Q. Sure. And you can read along with me  
6 because it's what Dr. Hulse Stevens says right  
7 here.

8 A. Yeah.

9 Q. You would agree with me it's important  
10 for the 750, the Model 750 Bair Hugger, to have a  
11 filtration efficiency that adequately mitigates  
12 particulates in the air coming out after  
13 filtration?

14 MR. GORDON: I object to the form  
15 of the question, lack of foundation, an incomplete  
16 hypothetical.

17 BY MR. BANKSTON

18 Q. Do you agree? Do you not agree? Do you  
19 have no opinion?

20 A. Well, this -- you're pointing to a very  
21 complex set of statements and assertions.

22 Q. All right.

23 A. I don't think I have the -- I have the  
24 background to either agree or disagree with what is  
25 being said here.

1 Q. Okay. That's fine. That's all I needed  
2 to know.

3 Look really quickly on the final  
4 page of that. You'll see a number 7.

5 A. This one?

6 Q. Hmm hmm. Do you see a number 7? It  
7 states: "The apparently greater particulate  
8 emissions from the 750 may simply be a function of  
9 its airflow, which is 81% greater than the model  
10 505E."

11 Have you ever heard about any  
12 differences between the Bair Hugger units in terms  
13 of their airflow before today?

14 A. No.

15 Q. Okay.

16 MR. BANKSTON: And we're going to  
17 do a little bit of this and then we'll have lunch.

18 MR. GORDON: Are you done with  
19 these?

20 MR. BANKSTON: Oh, I'm done. My  
21 clock is off. I'm still in Central. All right.  
22 Well, we got plenty of time.

23 MR. GORDON: Are you done with  
24 these?

25 MR. BANKSTON: Yes, I sure am.

1 MR. ASSAAD: Do you want to take  
2 a break?

3 MR. BANKSTON: Yeah. Let's take a  
4 five real quick. I want to talk to you for a  
5 second.

6 THE VIDEOGRAPHER: We are going off the  
7 record. The time is 10:34 a.m.

8 (ADJOURNMENT)

9 THE VIDEOGRAPHER: We are back on the  
10 record. The time is 10:51 a.m.

11 MR. BANKSTON: Okay.

12 Q. Mr. Ho, do you agree with me that all  
13 other factors being equal an increase in bioburden  
14 in an environment will increase the risk of  
15 surgical infection?

16 MR. GORDON: I object to the form  
17 of the question, lack of foundation, incomplete  
18 hypothetical.

19 A. Whoa.

20 BY MR. BANKSTON

21 Q. Hmm hmm.

22 A. You're taking a very broad swath here.

23 Q. Absolutely I am. All other factors  
24 being equal, an increase in bioburden will increase  
25 the risk of infection in an operating room. Will

1     you agree with that proposition?

2                   MR. GORDON:                The same objections.

3           A.     Well, you're really asking if throwing a  
4     handful of manure in the operating room would  
5     increase infections. Is that what you're asking?

6                   BY MR. BANKSTON

7           Q.     I don't think that's what I asked, but  
8     if that's -- if that's one of your interpretations  
9     of an increase in bioburden in that environment --

10          A.     Yeah.

11          Q.     -- will that increase the risk of  
12     infection? I mean, live manure on the floor of an  
13     operating room, will that increase the risk of  
14     infection?

15          A.     Well, that is not necessarily true  
16     either.

17          Q.     Okay. So from Dr. Ho's perspective --

18          A.     Yeah.

19          Q.     -- from your advice as a microbiologist,  
20     given an infection-control device in an operating  
21     room, you have no problem with manure being on an  
22     operating room floor from an infection-control  
23     purpose; is that correct?

24          A.     I also didn't say that.

25          Q.     Okay. Do you have a problem with live



1 manure being on the floor from an infection  
2 standpoint?

3 A. That is not something that ordinary  
4 people would do.

5 Q. No, it's not. It's just something you  
6 brought up. I'm just wondering.

7 A. Yeah.

8 Q. Would you be okay with that?

9 A. No. It's just not something that any  
10 sane person would do.

11 Q. Absolutely. Because it would  
12 drastically increase the risk of infection in an  
13 operating room; correct?

14 A. No, it's just -- it's just not done.

15 Q. Sure. You would agree with me that an  
16 increase in CFUs per metre cubed in an operating  
17 room will increase the risk of surgical infection?

18 MR. GORDON: I object to the form  
19 of the question, incomplete hypothetical.

20 A. I cannot agree with that because  
21 infectivity is a very complex subject and issue,  
22 and so you cannot tie up the equation in a  
23 simple -- simple-minded formula.

24 BY MR. BANKSTON

25 Q. If there is zero, functionally zero,

1 measured to be zero bacteria or biological  
2 particles inside of an operating room, there is  
3 zero risk of infection; correct?

4 MR. GORDON: I object to the form  
5 of the question, incomplete hypothetical.

6 A. Are you talking about aerosol again?

7 BY MR. BANKSTON

8 Q. I'm talking about aerosol and surface.  
9 I'm talking about a completely, totally sterile  
10 environment with zero bioburden, zero bacteria.  
11 There is zero risk of infection in that room?

12 MR. GORDON: Everything else  
13 equal?

14 MR. BANKSTON: Sure. Yeah.

15 Q. Because people have bioburden; right?

16 A. You're referring to the skin of the  
17 patient?

18 Q. Hmm hmm. No, I'm not.

19 MR. GORDON: No, he's not.

20 BY MR. BANKSTON

21 Q. I'm not at all, actually. What I'm  
22 trying to say is if you have zero bacteria in an  
23 environment, there is no pathological agents to  
24 cause an infection; correct?

25 A. And you're not counting for the fact

1       that the human body --

2             Q.     Totally. I'm saying --

3             A.     -- is covered with bacteria?

4             Q.     Let's say we all leave this room.

5             A.     Yeah.

6             Q.     Let's say it's completely disinfected.

7             A.     Yeah.

8             Q.     Totally sterile.

9             A.     Yeah.

10            Q.     There's no way an infection is going to  
11 develop on that chair, is there?

12            A.     Chairs don't get infected.

13            Q.     Right. Because there's no biological  
14 matter there; right? Like it's not an organism, is  
15 it?

16            A.     Yeah.

17            Q.     A chair?

18            A.     Yeah, okay.

19            Q.     Okay. So the chair won't get infected;  
20 right?

21            A.     Right.

22            Q.     Because there's no biological activity  
23 in the room?

24            A.     Right.

25            Q.     Okay. Now, if you add a susceptible

1 host and you add bacteria and bioburden to that  
2 room, the chance of infection suddenly appears;  
3 correct?

4 A. Again, you are stating a hypothetical  
5 situation where in order to give you a "yes," "no"  
6 answer --

7 Q. Hmm hmm.

8 A. -- you really would have to bring in a  
9 lot of variables. And life is just full of  
10 variables that you cannot expect a "yes," "no"  
11 answer like that.

12 Q. All right. I kind of thought it was a  
13 simple proposition that if there's no host --

14 A. Well, why --

15 Q. Hold on. Hold on. I got to finish my  
16 question before you can give testimony. The only  
17 way we can have testimony is if you're responding  
18 to a question. Okay?

19 A. Yeah. Yeah.

20 Q. I thought it was a simple proposition  
21 that if there was no host and no bacteria, there's  
22 no infection risk. Correct? Nothing is there to  
23 be infected? There is nothing to infect; right?

24 A. Yeah.

25 Q. Empty room, no bacteria?

1 A. Yeah. We went along with that.

2 Q. You put a person in the room, a host --

3 A. Yeah.

4 Q. -- any kind of organism --

5 A. Yeah.

6 Q. -- and you put bacteria in the room, now  
7 there's a chance of infection; correct?

8 A. You can't say that either.

9 Q. You're saying that there's no chance of  
10 infection?

11 A. No. I didn't say there's no chance.

12 Q. So there is a chance of infection?

13 A. I'm simply saying that -- that it's too  
14 simplistic a proposition when you -- when you're  
15 dealing with a very complex infectivity issue.

16 Q. Right. Okay. And, for instance, human  
17 infectivity is affected by various variables that  
18 affect the room; right?

19 A. Well, let me put it a different way that  
20 you appreciate.

21 Q. Okay. I prefer you answer the  
22 questions --

23 A. Well, well --

24 Q. -- but if you're answering the question,  
25 that's fine.

1           A.    You will understand why it is so  
2   difficult to answer a question that you are just  
3   proposing --

4           Q.    Okay.  So let's go back to the question  
5   firstly.

6           A.    -- if you do not understand infectivity,  
7   which we don't.

8           Q.    Okay.  So --

9           A.    You use the word "infectivity" like it  
10  was a God-given bolt of lightning, which it isn't.

11          Q.    Sir, what I'm trying to say is  
12  infectivity in people is subject to lots of  
13  variables?

14          A.    That's a fair enough thing to say it.

15          Q.    Fair.  Let's do it little pieces at a  
16  time.

17          A.    Yeah.

18          Q.    We're not trying to get too complicated  
19  here.

20          A.    Yeah.

21          Q.    Okay.  Those variables -- in other  
22  words, you put a person in a room, you put bacteria  
23  in a room, there are tons and tons of variables  
24  that could affect whether that bacteria over there  
25  gets to that person over there and whether it

1 actually infects them? There are so many things  
2 under the sun to consider; correct?

3 A. Correct.

4 Q. Okay. If there is no bacteria and no  
5 person, there is zero mathematical chance that  
6 there can be an infection?

7 A. Fair.

8 Q. Okay. If there is a person and there's  
9 a bacteria, despite all the variables that may be  
10 from transmission to infection to host, there is a  
11 non, zero chance of infection? It could be  
12 ..0000001. It could be you bathe inside of manure  
13 and you got maybe like a 90 percent chance of  
14 getting an infection. But what I'm trying to get  
15 to you is you agree with me that an infection  
16 requires a bacteria and a susceptible host?

17 A. I'm not --

18 Q. Those two things must be present for an  
19 infection?

20 A. Now you are getting technical. You are  
21 trying to imply that one single bacterin would  
22 cause an infection. Is that what you're driving  
23 at?

24 Q. No. I thought I used the word  
25 "bacteria." Is that not the plural? How do you --

1 how do you pluralize that?

2 A. A single bacterium.

3 Q. Bacterium is singular. Right.

4 A. Yeah.

5 Q. I'm talking about bacteria.

6 A. A whole --

7 Q. There's bacteria in the room, plural.

8 A. Yeah. Yeah.

9 Q. So in order for there to be an infection  
10 there must be bacteria, plural, and there must be a  
11 person, a susceptible host? Those two things are  
12 required for an infection?

13 A. And the organism has to be infectious.

14 Q. Yes. The bacteria has to be  
15 pathological to the host; correct?

16 A. Yeah. Yeah.

17 Q. Okay. So if those things are there,  
18 there is the potential for an infection?

19 A. We'll go along with that.

20 Q. Okay. Thank you, sir. Bacteria tend to  
21 cluster, you would agree? It is rare for bacteria  
22 to be alone?

23 A. We'll go along with that.

24 Q. Okay. Bacteria when they cluster, they  
25 tend to form exopolysaccharides?



1           A.    No, that's backwards. The way you say  
2   it is backwards.

3           Q.    Okay.

4           A.    So the answer is no.

5           Q.    So backwards is when bacteria do not  
6   cluster they form biofilm? Or when they do cluster  
7   they form biofilm?

8           A.    Bacteria form biofilm, and that induces  
9   cluster.

10          Q.    Got you. Okay. So the individual  
11   bacterium produces a biofilm around it?

12          A.    Yeah.

13          Q.    And that biofilm allows it to cluster to  
14   other bacteria?

15          A.    Right.

16          Q.    Okay. Do you have any opinion about how  
17   many bacteria are needed to form a cluster on an  
18   orthopedic implant?

19          A.    I can't say that.

20          Q.    Okay. In your report you had talked  
21   about an analogy about a popcorn machine. Do you  
22   remember that popcorn analogy?

23          A.    Hmm hmm.

24          Q.    Okay.

25                MR. ASSAAD:                   Is that a yes?

1 BY MR. BANKSTON

2 Q. Is that a yes, sir?

3 MR. GORDON: You have to give a  
4 verbal answer.

5 A. Yeah. Yes.

6 BY MR. BANKSTON

7 Q. Okay.

8 A. That's actually a quote. It was quoted  
9 from a paper.

10 Q. Yes. Some -- some other person came up  
11 with this popcorn analogy.

12 A. Right.

13 Q. Going back to orthopedic implants, would  
14 you disagree that a single bacterium can attach to  
15 an orthopedic implant?

16 MR. GORDON: I object to the form  
17 of the question, lack of foundation.

18 A. I can't -- I can't make a statement on  
19 that.

20 BY MR. BANKSTON

21 Q. Okay. All right. So this idea of a  
22 popcorn maker, which is kind of a visual metaphor  
23 for us, it sort of brings out the point that the  
24 people in the operating room are a big source of  
25 the bioburden in that operating room? They're the

1 popcorn makers?

2 MR. GORDON: I object to the form  
3 of the question.

4 BY MR. BANKSTON

5 Q. Is that correct?

6 A. That's the -- that was the quotation.

7 Q. Okay. You agree with that, though?

8 That's why you put it in your report?

9 A. Well, I thought it was an interesting  
10 quotation, but it -- I didn't have to totally agree  
11 or disagree with it. It's an illustration.

12 Q. It's a helpful metaphor?

13 A. Yeah.

14 Q. Right. It helps people who maybe don't  
15 have your background understand a little bit of  
16 this problem; right?

17 A. Right.

18 Q. Okay. So when we're talking about the  
19 popcorn makers, which is kind of like the bacteria  
20 makers, that's organic? That's people? Right?  
21 That's where most of it comes from in an operating  
22 room; correct?

23 A. Yes. Continue.

24 Q. Okay. Well, I need verbal answers from  
25 you, sir. That's why I have to stop and say that.

1                               Without those popcorn makers, those  
2 people, there's no popcorn spilled into the  
3 environment. They're the ones who spill it into  
4 the environment; correct?

5               A.     Yes.

6               Q.     Okay. That applies to the patient and  
7 the surgical staff and anybody who comes in and out  
8 of that room; right?

9               A.     Yes.

10              Q.     And you understand -- we talked earlier  
11 about skin squames; right?

12              A.     Yes.

13              Q.     And you understand that those people in  
14 that room, they shed skin squames?

15              A.     Yes.

16              Q.     You understand they fall to the floor?

17              A.     Yes.

18              Q.     Okay. You understand then that the  
19 floor area of a surgical area and the air  
20 underneath that table has more bioburden than other  
21 parts of that room?

22                      MR. GORDON:               I object to the form  
23 of the question, lack of foundation, it assumes  
24 facts not in evidence.

25              A.     Well, are you stating that from your

1 experience or are you just making a conjecture?

2 BY MR. BANKSTON

3 Q. I'm just asking you a question.

4 A. Well, you know that --

5 Q. I don't have -- I'm not the expert here  
6 deposing today.

7 A. I have never sampled a floor of an  
8 operating room, so I can't say that.

9 Q. Okay. If biomass of skin squames,  
10 things like that, things that are shed from the  
11 popcorn makers --

12 A. Right.

13 Q. -- if that stuff gets into the surgical  
14 site, that's not a good thing; right?

15 MR. GORDON: I object to the form  
16 of the question, it assumes facts not in evidence,  
17 incomplete hypothetical, and lack of foundation.

18 A. Are you -- are you leading somewhere?

19 MR. GORDON: He's not going to  
20 tell you whether he is or isn't. Just answer his  
21 questions.

22 BY MR. BANKSTON

23 Q. Yeah. I don't -- I don't understand  
24 these responses of like -- are you asking for our  
25 litigation strategy, sir? I don't understand. Are

1     you asking for what I'm saying? Because what I'm  
2     asking you, and let me make it super clear --

3             A.     Yeah.

4             Q.     -- that popcorn that spills  
5     everywhere --

6             A.     Yeah.

7             Q.     -- do you want to get it in the patient?  
8     Is that good?

9                     MR. GORDON:             I object to the form  
10    of the question.

11                    BY MR. BANKSTON

12             Q.     Is it good --

13                     MR. GORDON:             The same objection.

14                    BY MR. BANKSTON

15             Q.     -- popcorn goes in the patient?

16             A.     Is that a fair question to ask me?

17             Q.     That's the question. Is it good if the  
18    popcorn goes in the patient, Doctor?

19             A.     It certainly is not helpful.

20             Q.     Okay. If you increase the bioburden in  
21    the air over a surgical site, you will increase the  
22    chance of surgical infection, won't you?

23             A.     I can't say that either.

24             Q.     Okay. Do you have -- do you have any  
25    qualifications to speak on that or...

1 A. Not really.

2 Q. Okay. That's something that an  
3 infectious disease expert would speak more to than  
4 somebody in your field; right?

5 A. That would be fair to say that.

6 Q. Okay. So, in other words, let's --  
7 let's go back to what the plaintiffs are talking  
8 about in this case. And I know you haven't read  
9 the complaint, but do you understand that the  
10 plaintiffs have -- are claiming evidence, are  
11 claiming that they have evidence that the heat and  
12 air currents from the Bair Hugger are transporting  
13 that popcorn up from below the table air to the  
14 surgical site? You understand that that's their  
15 allegation?

16 A. Are you saying that there is evidence?

17 Q. I'm saying that they claim to have it,  
18 yes. I'm wanting to know if you understand that  
19 that's what the plaintiffs are claiming.

20 A. Well, I'm trying to figure out. There's  
21 claiming and actual evidence --

22 Q. Sure.

23 A. -- are they different things altogether?

24 Q. I think it's up to you. Didn't you  
25 spend a significant part of your report criticizing

1 studies that have found this very phenomena?

2 A. Well, I -- I notice that there were  
3 papers describing bubble studies.

4 Q. Okay.

5 A. And I find that to be a unhelpful  
6 illustration of how anything could be --

7 Q. I got you. Okay.

8 A. Yeah.

9 Q. So let's talk about those bubble studies  
10 a bit, or some of the other -- there's some other  
11 literature too, different kinds of literature --

12 A. Right.

13 Q. -- that the plaintiffs -- that you've  
14 been provided. Somebody gave it to you; right?

15 A. Right.

16 Q. And said: "Hey, here's the stuff the  
17 plaintiffs are relying on. This is their  
18 evidence." And I understand you're pretty critical  
19 of that evidence. I get that. But what I'm trying  
20 to say is you understand the plaintiffs say, "We  
21 think we have evidence, and we think that evidence  
22 says the popcorn is getting transported through the  
23 air currents up to the patient." You understand  
24 that that's the allegation?

25 A. That's the allegation.



1 Q. That's what you are here to address, in  
2 part?

3 A. Right.

4 Q. Okay. Do you have any expert opinions  
5 about whether that is scientifically true or not?

6 MR. GORDON: The plaintiffs'  
7 allegations?

8 MR. BANKSTON: Hmm hmm.

9 A. You are asking me to speculate in this  
10 case?

11 BY MR. BANKSTON

12 Q. No. I don't think I'm asking you to do  
13 anything. I think you've been retained to provide  
14 opinions about the plaintiffs' case, and I'm  
15 wondering if one of your opinions is "I, Dr. Ho,  
16 have qualifications and expertise to speak about  
17 the disruption of laminar flow in an orthopedic  
18 surgical suite."

19 MR. GORDON: Now you're just --  
20 just asking about that?

21 MR. BANKSTON: That's a new  
22 question, yeah.

23 MR. GORDON: Okay.

24 A. What happened to the bubbles?

25 BY MR. BANKSTON

1 Q. What's that? Excuse me, sir?

2 A. What happened to the bubble question?

3 Q. You understand that those bubble  
4 questions -- those bubble studies were designed to  
5 investigate whether the Bair Hugger interrupts and  
6 interferes with laminar flow in a surgical suite?  
7 Do you understand that?

8 A. Was that still a question?

9 Q. That's a question. Do you understand  
10 that the bubble studies were meant to investigate  
11 whether the Bair Hugger interrupts laminar flow in  
12 a surgical suite?

13 A. I know that that was the intent.

14 Q. Okay. So do you have expert opinions,  
15 are you qualified to speak about the disruption of  
16 laminar flow in an orthopedic surgical suite?

17 A. So you're wanting to ask if I have the  
18 expertise to interpret the data?

19 Q. To comment and make opinions to this  
20 jury that will decide the fate of 2,000 plaintiffs,  
21 and maybe more. Do you think you have the  
22 expertise to -- and any education, in the  
23 disruption of laminar flow in an orthopedic  
24 surgical suite and the fluid dynamics that occurs  
25 within it?

1 A. And you want a "yes," "no" answer here?

2 Q. Are you qualified? Yeah. Do you feel  
3 ethically and morally comfortable telling this jury  
4 that you have superior expertise in these issues?

5 MR. GORDON: The issues of  
6 disruption of laminar flow?

7 MR. BANKSTON: Exactly. The issues  
8 of disruption of laminar flow in an orthopedic  
9 surgical suite.

10 A. And are you making the assumption that  
11 there is laminar flow?

12 BY MR. BANKSTON

13 Q. I just want an answer to my question is  
14 what I want.

15 A. You see, again, here -- here I have  
16 issues with it, with the context of the question.

17 Q. I want to know do you have expertise and  
18 opinions sufficient to discuss whether the  
19 Bair Hugger through fluid dynamics interrupts the  
20 laminar flow of an orthopedic surgical suite. I  
21 don't think -- I'm trying to add --

22 MR. GORDON: Mark, can I  
23 stipulate for you that we're not offering him for  
24 that?

25 MR. BANKSTON: That's all I'm

1 asking him. Yeah. If you can help me out here and  
2 offer me that. Okay.

3 MR. GORDON: He's not being  
4 offered on laminar flow.

5 MR. BANKSTON: He's not going to  
6 discuss laminar flow --

7 MR. GORDON: He's not being  
8 offered on airflow disruption.

9 MR. BANKSTON: Okay. Because  
10 there's a lot in his report about that. You  
11 understand that?

12 MR. GORDON: Not about airflow  
13 disruption.

14 MR. BANKSTON: We're going to be  
15 talking about a lot of it. So when we get to that,  
16 I'm going to ask you to stipulate again for me,  
17 okay? Let's move on.

18 BY MR. BANKSTON

19 Q. On page 9 of your report, can you open  
20 that up for me.

21 A. Page 9?

22 Q. Hmm hmm. And I would like to direct you  
23 into the second paragraph.

24 A. Right.

25 Q. Right about in the middle. Do you see

1 where the word "OR" is in parentheses?

2 A. Right.

3 Q. That's about where I'm looking. The  
4 next sentence starts, and I'm going to quote for  
5 you here:

6 "If [the] conditions outside an OR  
7 were contaminated with any of these  
8 bacterial pathogenic aerosol  
9 particles, Kalliomaki et al. (2016)  
10 predicted that passage of personnel  
11 through doors would introduce  
12 significant contaminants."

13 Did I read that correctly?

14 A. You read it correctly.

15 Q. From what I can take out of this  
16 paragraph and that sentence --

17 A. Right.

18 Q. -- would you agree with me that people  
19 who come into the OR, when they open the door and  
20 they come in from a nonsterile environment --

21 A. Right.

22 Q. -- there's a good chance they're going  
23 to bring bioburden into that room?

24 A. You can say that.

25 Q. Okay. Now, first of all, can you tell

1 me why that -- is that proposition, is that -- does  
2 that have any particular significance to your  
3 opinions about the safety of the Bair Hugger?

4 A. That statement was made to illustrate  
5 that the contaminants that is alleged to be in the  
6 air could come from all kinds of sources, and  
7 people traipsing in and out would be one of them.

8 Q. Right. And those sources can get into  
9 the air of an operating room; right?

10 A. Yeah. Yes.

11 Q. Now, this Kalliomaki study, do you know  
12 if that was an operating room that was being  
13 studied?

14 A. I think -- I believe it was.

15 Q. All right. Because it seems to me that  
16 that was actually a negative pressure isolation  
17 room. Have you heard of that before? Have you  
18 heard of a negative pressure isolation room?

19 A. Yes, yes.

20 Q. It's not the same thing as an operating  
21 room, is it?

22 A. Okay. Let's hear you define what a  
23 negative pressure operating room is.

24 Q. Actually, you're the expert, sir, and  
25 you said you know what it is. Why don't you tell

1 me what a negative pressure isolation room is?

2 A. Well, why did you even mention that?

3 Q. Because it's what the study was about  
4 and you cited it. So why don't you tell me why it  
5 was important that you cited a study about a  
6 negative pressure isolation room?

7 A. Well, presumably the design of the  
8 airflow system was to prevent particles from coming  
9 back into the operating room as a -- by virtue of  
10 the air pressure differential.

11 Q. So is it your belief that ORs are  
12 negative pressure rooms or positive pressure rooms?

13 A. They will be positive with respect to  
14 the outside.

15 Q. And an isolation room, is that a  
16 negative pressure room or a positive pressure room?

17 A. I don't -- I don't think I can comment  
18 on that.

19 Q. Okay. So in terms of whether these  
20 rooms have the same force of airflow, the same  
21 fluid dynamics --

22 A. Right.

23 Q. -- an isolation room, that's negative  
24 pressure, or an operating theatre, that's not  
25 something you can speak about today?

1 A. No.

2 Q. Okay.

3 MR. GORDON: Mark, do you want to  
4 stipulate that that study has absolutely nothing to  
5 do with operating rooms?

6 MR. BANKSTON: Sure, if you want  
7 to. Yeah. I mean, I don't -- you can stipulate to  
8 whatever you want to.

9 MR. ASSAAD: You can stipulate to  
10 whatever you want to.

11 MR. BANKSTON: Yeah. You can  
12 stipulate that I, you know, have nice looking hair  
13 today. I'm cool.

14 MR. GORDON: No. I mean, you'll  
15 agree to that too?

16 MR. BANKSTON: That that study has  
17 nothing to do with operating rooms? 100 percent.  
18 Negative pressure isolation rooms. I agree with  
19 that.

20 Q. Let's talk about Romano.

21 MR. GORDON: Dr. Elghobashi  
22 relied on it. That's why I'm --

23 MR. BANKSTON: Yeah.

24 MR. GORDON: I'm just kind of  
25 teasing.



1 MR. BANKSTON: Yeah. No. Yeah.  
2 There's a -- it has importance. Not as a model of  
3 an operating room.

4 MR. GORDON: I'll agree with  
5 that.

6 MR. BANKSTON: Yeah. Yeah. You're  
7 all going to have fun with that one.

8 Q. Romano et al. Are you familiar with  
9 this study about electrosurgical tools? Right?  
10 Produced contaminants into the environment?

11 A. Right.

12 Q. Are those particles -- do you know what  
13 kind of particle sizes we're talking about from an  
14 EST?

15 A. Not specifically.

16 Q. Okay. Would you -- would you be  
17 surprised if that study discusses particles that  
18 are .2 to 1 micron?

19 A. I wouldn't be surprised.

20 Q. That's smaller than typical bacterial  
21 presentation; correct?

22 MR. GORDON: I object to the form  
23 of the question, it assumes facts not in evidence,  
24 incomplete hypothetical, vague.

25 A. Is it safe to assume that there would be

1 a spectrum of particles without having to  
2 specifically name size range?

3 BY MR. BANKSTON

4 Q. Well, no, sir. What I'm referring back  
5 to is you remember the very beginning of this  
6 deposition we started off with your proposition  
7 that typical biological presentation of biological  
8 aerosols were in the range of 1 to 2.5 microns. Do  
9 you remember that?

10 A. Yeah. That is said as kind of an  
11 overall picture.

12 Q. Okay.

13 A. Yeah.

14 Q. So your typical biological presentation  
15 is going to be a very different size than the  
16 particles that are expelled from an EST?

17 MR. GORDON: I object to the form  
18 of the question.

19 BY MR. BANKSTON

20 Q. Would you agree to that?

21 A. Well, as I've said, I haven't actually  
22 measured those instrumentation.

23 Q. Okay.

24 MR. ASSAAD: Just for the record,  
25 I'm going to stipulate that that is not the article

1 that Elghobashi relied upon and that counsel was  
2 incorrect.

3 MR. BANKSTON: I thought it was  
4 Kalliomaki, but I guess not. I guess he could  
5 have.

6 MR. ASSAAD: No. No. Elghobashi  
7 went in a different.

8 MR. GORDON: Yeah, Villafruela.

9 MR. BANKSTON: Yeah. It was an  
10 isolation room, yeah, but performed before an  
11 operating room. We'll still get some mileage out  
12 of Kalliomaki, though. Don't worry about that.

13 BY MR. BANKSTON

14 Q. All right. Let's talk a little bit  
15 about particle count. You're familiar with the  
16 practice of particle counting; right.

17 A. Yes.

18 Q. You don't believe that particle counting  
19 can be predictive of microbiological contamination  
20 of air in an operating room, do you?

21 A. I do not.

22 Q. Okay. A lot of people disagree with you  
23 about that. Do you recognize that?

24 MR. GORDON: I object to the form  
25 of the question, lack of foundation, assumes facts

1 not in evidence, and vague.

2 BY MR. BANKSTON

3 Q. Would you say that there's scientists  
4 who disagree with you on that?

5 A. Those people have not actually gone out  
6 to measure particles in general --

7 Q. Okay.

8 A. -- and biological particles in specific.

9 Q. Okay. So if they went, they would need  
10 to go specifically into an operating room during a  
11 procedure, actually measure it?

12 A. No --

13 Q. They can't speculate? Speculation is no  
14 good?

15 A. I would respectfully suggest they would  
16 actually start out learning how to measure  
17 particles in ambient air in nature, outdoors.

18 Q. Okay.

19 A. That's where they start. And then after  
20 they have done that they would -- and I  
21 specifically mean that the person has to measure  
22 biological particles, as well as raw nonbiological  
23 particles. Are you with me?

24 Q. Yes, sir, I am.

25 A. And have an understanding as to how the

1 two populations relate to each other.

2 Q. And you contend that the people who have  
3 studied this have not done that?

4 A. That's correct.

5 Q. Okay. Are you familiar with Dr. Gregory  
6 Stocks?

7 A. Yeah.

8 Q. Okay.

9 A. I seen it.

10 MR. GORDON: The person or the  
11 paper?

12 MR. BANKSTON: The person.

13 Q. Dr. Gregory Stocks, you're familiar --

14 A. I don't know him. Yeah. I'm familiar  
15 with the paper.

16 Q. You're familiar with who he is, though?  
17 You never met the man, I take it?

18 A. I never met the man.

19 Q. Okay. You're familiar with his study?  
20 He's one of the people who studied this; right?

21 A. Well, I'm familiar because he -- he has  
22 a publication.

23 Q. Sure. I'm going to go ahead and hand it  
24 to you. This has been previously marked as  
25 Exhibit 27 in this litigation.

1                   Now, you would agree with me that  
2   the conclusion of Mr. Stocks -- excuse me, of  
3   Dr. Stocks and his team is that particles are a  
4   reasonable surrogate for bioburden?

5           A.    Why do I have to agree with you?

6           Q.    You don't have to. I'm asking if you  
7   do.

8           A.    Yeah. The answer is no.

9           Q.    No, you don't agree with that. So if  
10   somebody was to say Stocks and his colleagues were  
11   able to demonstrate that particles are a reasonable  
12   surrogate for bioburden, you would say no, that's a  
13   wrong opinion?

14          A.    Correct.

15          Q.    Okay. Are you familiar with a  
16   Russell Olmsted with the National Institute of  
17   Health?

18          A.    What is this in relation to?

19          Q.    I'm just wondering if you know the man.

20          A.    No.

21          Q.    Okay.

22          A.    Yeah.

23                   MR. BANKSTON:           4.

24          Q.    Okay. So one of the things we had  
25   talked about with Stocks, right, is the people who

1 have studied this, is they haven't really followed  
2 the right methodology to really measure this. Is  
3 that part of your contention?

4 MR. GORDON: Objection, form of  
5 the question.

6 A. If you were to look at one of the figure  
7 studies he's presented --

8 BY MR. BANKSTON

9 Q. Hmm hmm.

10 A. His Figure 1. Do you see it?

11 Q. Sure. Yeah. Let's look at Figure 1.

12 A. Yeah.

13 Q. Okay.

14 A. Okay. He's based all his conclusions on  
15 Figure 1.

16 Q. Okay. So --

17 A. And if you -- if you have any training  
18 in measurements, particle analysis, and all the  
19 other good things that one would have to have, you  
20 would look at that Figure 1, right away would say  
21 that this is scattered data all over the map.

22 Q. Okay.

23 A. Wouldn't you agree?

24 Q. I don't have any expertise to -- I would  
25 rely on somebody who is an expert.

1           A.    Okay.  So as a person who has measured  
2   particles, live agent, everything else, that's  
3   definitely bad data.

4           Q.    Anybody who has measured particles for a  
5   living would know that's bad data?

6           A.    Yeah.

7           Q.    Okay.

8           A.    Very bad.

9           Q.    Very bad?  Okay.

10          A.    And his whole conclusion is based on  
11   that observation.

12          Q.    Okay.  So there's, according to you,  
13   some methodological problems and this is not good  
14   stuff?

15          A.    On top of that the data was fudged.

16          Q.    Okay.  The data was fudged?

17          A.    Yeah.

18          Q.    What do you mean by that?

19          A.    Well, somewhere along the way his raw  
20   data did not fit his expectations so he took it  
21   upon himself to do a data transform.

22          Q.    Why do you say that?  Where do you get  
23   that from?

24          A.    He said that.

25          Q.    Okay.  Where is that in his -- oh,



1 actually, we'll look at that after lunch. That's  
2 not important right now.

3 Let's get -- there we go.

4 MR. GORDON: Are you done with  
5 Stocks for now?

6 BY MR. BANKSTON

7 Q. I am going to hand you what has been  
8 previously marked in this litigation as Exhibit 26.  
9 As you see on the bottom here, this is a 3M  
10 confidential document. Do you see that?

11 A. Yeah.

12 Q. Okay. We have an email here between  
13 Gary Hansen and Russell Olmsted. I don't know if  
14 you've read the -- I don't think you've read the  
15 deposition testimonies on this so I'll help you out  
16 here that Gary Hansen is an employee of Arizant.  
17 At this time --

18 MR. GORDON: Object to the form  
19 of the question, misstates the evidence.

20 BY MR. BANKSTON

21 Q. -- it might be 3M by this -- no, not 3M  
22 by this point. It's still Arizant, the makers of  
23 the Bair Hugger. That's who Gary Hansen is. He's  
24 at the time that this was written, in March of  
25 2010.

1                   Mr. Olmsted is the National  
2   Institute of Health gentleman I was asking you  
3   about. Did you know that Mr. Olmsted was a  
4   retained expert for the company?

5                   MR. GORDON:           I object to the form  
6   of the question.

7                   A.    Am I supposed to know that?

8                   BY MR. BANKSTON

9                   Q.    I don't know what you're supposed to  
10   know, sir. How would I know what you're supposed  
11   to know?

12                  A.    Olmsted was retained as?

13                  Q.    Did you know that? Did you know that  
14   Russell Olmsted is a retained consultant for 3M?

15                  MR. GORDON:           I object to the form  
16   of the question, it assumes facts not in evidence.

17                  A.    I wouldn't know that. Yeah.

18                  BY MR. BANKSTON

19                  Q.    Okay. I would like to look at what  
20   Mr. Olmsted says about the Stocks paper. Okay?  
21   And you'll agree with me that right off the bat he  
22   calls it a fairly remarkable paper; correct?

23                  A.    That's what he says.

24                  Q.    Okay. That is what he says?

25                  A.    Yeah.

1 Q. And then he says it's fairly remarkable  
2 given an ability to be present during the actual  
3 procedures; correct? Do you see where it says  
4 that?

5 A. "The ability to be present." What does  
6 that mean? Who was present?

7 Q. That means Stocks was in the operating  
8 room; correct?

9 A. I don't know that.

10 Q. Well, you know that from Stocks' paper,  
11 don't you?

12 A. Well, from what I see, Stocks' graduate  
13 student could have done the work.

14 Q. Okay. So the measurements were done in  
15 the actual procedure. You'll agree with that?

16 A. Well, it says that -- somebody has to do  
17 some measurements.

18 Q. Absolutely. And these ones were done  
19 during an actual surgical procedure; correct?

20 A. Probably true.

21 Q. Okay. And definitely true; right?

22 A. Well, again, without --

23 Q. Are you saying they're lying in the  
24 paper when they say they were in actual surgeries  
25 and measured them?

1           A.    Well, when I start to see them fudging  
2   the numbers and doing data transforms and --

3           Q.    So you're saying that they could be  
4   lying and they weren't even in a surgery?

5           A.    I'm not using terms that a layman would  
6   jump up and down over. I'm simply saying that  
7   based on the data that is presented in this paper,  
8   it is very difficult to believe what is being said.

9           Q.    Sir, do you have any basis to believe  
10   that these people made up the study and weren't  
11   actually in surgeries?

12          A.    Well, again, there's a difference  
13   between data taking in surgery and data not -- not  
14   meeting their expectation.

15          Q.    So is that a yes or a no? Do you have  
16   any evidence that they're making this up and they  
17   weren't in surgeries?

18          A.    You see, you're asking a very different  
19   question. I'm simply saying that they may have  
20   taken the data wherever it is taking them, okay,  
21   but it is poorly interpreted --

22          Q.    I get that.

23          A.    -- poorly treated.

24          Q.    Dr. Ho, I get that you don't like this  
25   study.

1 A. Yeah.

2 Q. I get you think it's bad.

3 A. Yeah.

4 Q. I think you think that these people  
5 don't know what the heck they're doing.

6 A. Exactly.

7 Q. I get that.

8 A. Yeah.

9 Q. But are you disputing they were actually  
10 in surgeries?

11 A. I can't say that because how could I  
12 even know exactly where the data was taken from.

13 Q. All right, sir.

14 A. Is it reasonable for me to even say  
15 that?

16 Q. To -- you understand these papers are  
17 peer reviewed?

18 A. Well, I suppose they would -- might have  
19 been peer reviewed, but a lot of crummy stuff came  
20 out --

21 Q. I mean, let's --

22 A. -- from peer-reviewed sources too.

23 Q. Let's be really frank and honest. Do  
24 you really think that Dr. Stocks and his entire  
25 team of doctors would fake they're being in

1 surgeries? You would agree with me --

2 A. I didn't say --

3 Q. -- they were in surgeries?

4 MR. GORDON: Mark, why would you  
5 say that?

6 A. Nobody is saying --

7 MR. BANKSTON: Because it's an --  
8 it's insane testimony. That's why I'm doing it.

9 Q. You would agree, sir --

10 MR. GORDON: Oh, come on.

11 BY MR. BANKSTON

12 Q. -- it is absolutely unconscionable that  
13 you would even try to suggest to this jury that  
14 they faked this data and weren't in an operating  
15 room?

16 A. I didn't say that --

17 Q. All right. Let's make sure --

18 MR. GORDON: Wait, wait.

19 BY MR. BANKSTON

20 Q. -- that's not what you're saying.

21 MR. GORDON: I want to object.  
22 That's argumentative, it's ad hominem, and he  
23 didn't testify to that and you're wasting so much  
24 time.

25 MR. BANKSTON: All right.

1                   MR. GORDON:               He's not -- why are  
2   you -- why are you going down this rabbit trail?  
3   He's -- his testimony is about the data. Did it  
4   happen in a surgery? He says he doesn't know.  
5   We've spent --

6                   MR. BANKSTON:           He strongly  
7   suggested that it might be fake, and you know he  
8   did.

9           A.    I didn't say that.

10                  MR. BANKSTON:           So let's go on.

11                  MR. GORDON:           Not the collection.  
12   He was talking about the --

13                  MR. BANKSTON:           The question we were  
14   asking about, Corey, was about the ability to be  
15   present during actual procedures.

16           Q.    And you say you doubt that. Do you  
17   doubt that or do you not doubt that?

18           A.    Ask the question one more time.

19           Q.    Their ability to be present during  
20   actual procedures in this study, do you doubt it or  
21   do you not doubt it, sir?

22           A.    Again, you should have phrased the  
23   question in saying was the instrumentation located  
24   someplace in the surgery. Why didn't you say that?

25           Q.    Do you agree to that? Do you agree they

1 had instrumentation in the surgery?

2 A. Yeah, I have no question that they  
3 actually put instrumentation in the operating room.

4 Q. Bingo. That's all we needed. All  
5 right.

6 A. You should come out and say what you  
7 want to say, rather than make it in such a fuzzy  
8 way that -- that it could be interpreted in  
9 15 ways.

10 Q. Okay. I'll try to cut down on the  
11 fuzziness.

12 A. So are we still looking at the data?

13 Q. Yeah. We're still looking at this  
14 document that I put in front of you that's --

15 A. Yeah.

16 Q. -- Exhibit 26. Do you see Exhibit 26?

17 A. Okay. Yeah.

18 Q. Do you see in that -- in that email --

19 A. Yeah.

20 Q. -- where Russell Olmsted --

21 A. Yeah.

22 Q. -- in direct contradiction to your  
23 testimony --

24 A. Yeah.

25 Q. -- says that the methods employed are



1 very good. Do you see where he says that?

2 A. I see that.

3 Q. You disagree with Mr. Olmsted, don't  
4 you?

5 A. I see what is being said.

6 Q. He says he likes the use of electronic  
7 particle counts and bacterial sampling?

8 A. Right.

9 Q. All right.

10 A. He said that. Yeah.

11 Q. He says it's a very helpful picture;  
12 correct?

13 A. He said that, yeah.

14 Q. Right?

15 A. Yeah.

16 Q. He says -- so from what Mr. Olmsted  
17 says --

18 A. Yeah.

19 Q. -- remarkable paper --

20 A. Yeah.

21 Q. -- very good methods --

22 A. Yeah.

23 Q. -- very helpful.

24 A. Yeah.

25 Q. You disagree with all that? Right?

1           A.     It's almost comical for anybody to say  
2     that.  It's almost like he never actually looked at  
3     the paper in detail.  He probably even just read  
4     the abstract and then, "Yeah, yeah, this is -- this  
5     is good stuff."

6           Q.     All right.  So these doctors who did the  
7     study, they don't know what they're doing?

8           A.     Yeah.

9           Q.     Mr. Olmsted at the National Institute of  
10    Health, apparently he doesn't know what he's doing  
11    either?

12          A.     I'm willing to walk you through the data  
13    to tell you where the stuff --

14          Q.     I'm just asking you if you disagree with  
15    Russell Olmsted in this email.  Do you?

16          A.     I disagree with what he said.

17          Q.     Okay.

18          A.     And who is he again?

19          Q.     National Institute of Health.

20          A.     Yeah.

21          Q.     Retained expert for --

22          A.     Yeah.

23          Q.     -- the client who also retained you.

24                 MR. GORDON:                 I object to the form  
25    of the question.

1 BY MR. BANKSTON

2 Q. Now let's move on.

3 MR. GORDON: It misstates the  
4 evidence.

5 BY MR. BANKSTON

6 Q. The second -- the second paragraph of  
7 that email.

8 A. Yeah.

9 Q. Do you have Exhibit 26 in front of you?

10 A. Yeah.

11 Q. Now, Mr. Olmsted says that he has done  
12 investigations where he used electronic particle  
13 counts; correct?

14 A. He said that, yeah.

15 Q. Okay. And then he says: "...it appears  
16 this group was able to demonstrate particle counts  
17 serve as a reasonable surrogate for bioburden of  
18 air in an OR."

19 A. Yeah.

20 Q. You disagree with that?

21 A. Totally.

22 Q. Okay. And I believe you also told me  
23 that anybody who has done particle counting would  
24 immediately recognize that that's not true?

25 A. Correct.

1 Q. Okay.

2 MR. BANKSTON: Give me 14.

3 MR. ASSAAD: Are you going to  
4 mark that, or not?

5 MR. BANKSTON: Oh, this has been  
6 in?

7 MR. ASSAAD: No, no, it's not.

8 MR. BANKSTON: Okay. Yeah. No.  
9 Then we're going to have to start a Ho 1. I think  
10 that's what we're going to have to do.

11 Can I get this marked --

12 COURT REPORTER: Sure.

13 MR. BANKSTON: -- as Ho 1. Oh, I'm  
14 sorry. Actually, can you mark this guy, because  
15 that's the one with the highlights.

16 MR. GORDON: So this is a new  
17 exhibit?

18 MR. BANKSTON: This is a new  
19 exhibit. And unfortunately, because we haven't  
20 been provided last sequentials, we're going to have  
21 to do experts individually. That's another reason  
22 I don't like sequential.

23 **EXHIBIT HO 1 - Paper by Raval et al**  
24 **titled "Real-Time monitoring of**  
25 **non-viable airborne particles**

1 correlates with airborne colonies  
2 and represents an acceptable  
3 surrogate for daily assessment of  
4 cell-processing cleanroom  
5 performance"

6 A. So are we done with the Stocks paper?

7 BY MR. BANKSTON

8 Q. Yeah, we're done with that. You can put  
9 that away.

10 I've handed you, sir, what has been  
11 marked for the purposes of this deposition as Ho  
12 Exhibit 1. Do you see in front of you a paper by  
13 Raval et al, and I'm going to read the title.  
14 "Real-time monitoring of non-viable airborne  
15 particles correlates with airborne colonies and  
16 represents an acceptable surrogate for daily  
17 assessment of cell-processing cleanroom  
18 performance." Did I read that title correctly?

19 A. You read the title correctly.

20 Q. This is not something that you reviewed  
21 in coming to your opinions in this case; correct?

22 A. That's correct.

23 Q. Have you ever seen this study before?

24 A. No.

25 Q. Okay. Do you see on the results where

1 it says "viable and nonviable particles were well  
2 correlated?"

3 A. It says that.

4 Q. Describe what it means to me if those  
5 particles are well correlated? What does "well  
6 correlated" mean?

7 MR. GORDON: Well, you're going  
8 to have to give him the opportunity to read the  
9 study if you want him to comment on specifics.

10 BY MR. BANKSTON

11 Q. Well, I just want to know what  
12 "correlation" is. Do you know what it means when  
13 things are correlated, two different findings are  
14 correlated?

15 A. Let me -- can I flip through some of the  
16 results and interpretation --

17 Q. Yeah. I'm not going to stop you.

18 A. -- before I -- before I get too deep  
19 into this thing?

20 Q. Hmm hmm. Dr. Ho, if you just want to  
21 read the whole thing, I'm going to take a little --

22 A. Yeah, sure.

23 MR. BANKSTON: Go off the record  
24 for a second.

25 THE VIDEOGRAPHER: We are going off the

1 record. The time is 11:32 a.m.

2 (ADJOURNMENT)

3 THE VIDEOGRAPHER: We are back on the  
4 record and the time is 11:53 a.m.

5 BY MR. BANKSTON

6 Q. All right. Before we took a break my  
7 question to you was what does "correlated" mean?

8 A. I'm glad you asked that.

9 Q. Hmm hmm.

10 A. And that's a common misconception for  
11 people inexperienced with analyzing particle data,  
12 when they throw a bunch of numbers onto a computer  
13 program with a X, Y axis.

14 Q. Okay.

15 A. And the computer program always comes  
16 back with a R square correlations. And R square  
17 correlations simply mean that if you throw things  
18 on the wall, how many -- how -- how could you  
19 define a linear relationship between all the  
20 numbers that are thrown on the wall.

21 So in this case it just so happened  
22 that the R square is at .78. It appeared to be a  
23 good number.

24 Q. Mr. Ho, did I ask you anything about  
25 this study?

1 A. Well, you didn't, but --

2 Q. I did not, did I?

3 A. You simply asked --

4 Q. And in fact I asked you what the word  
5 "correlated" mean --

6 A. Yeah.

7 Q. -- and in giving me an answer you used  
8 the word "correlations" three times, and we still  
9 don't have a definition.

10 A. Yeah. You don't -- you never will.

11 MR. GORDON: I object to the form  
12 of the question --

13 BY MR. BANKSTON

14 Q. Can you --

15 MR. GORDON: -- argumentative.

16 BY MR. BANKSTON

17 Q. Can you pretend for a moment that I'm a  
18 grade school student --

19 A. Right.

20 Q. -- and tell me what "correlation" means.

21 A. Yeah. In the -- in the definite -- in  
22 the definition of a -- of a true and correct  
23 relationship, correlation means that does one  
24 phenomenon affect the other or do the two phenomena  
25 connect to each other.



1 Q. In other words, do they have a  
2 meaningful relationship, a connection with each  
3 other?

4 A. Right.

5 Q. Is that correct?

6 A. Right.

7 Q. Okay. This study is entitled, as we  
8 discussed "Real-time monitoring of non-viable  
9 airborne particles correlates with airborne  
10 colonies and represents an acceptable surrogate for  
11 daily assessment of cell-processing cleanroom  
12 performance."

13 A. Right.

14 Q. The other word I need to understand out  
15 of that --

16 A. Yeah.

17 Q. -- is "surrogate." Do you know what  
18 "surrogate" means in this context? What does that  
19 mean?

20 A. Well, it's simply -- what the title  
21 hopes to -- to convince people is that you don't  
22 really need one to -- to measure the other.

23 Q. In other words, a surrogate means I can  
24 measure one and I have a good idea, a rough idea of  
25 what the other is?

1 A. That's the pretense.

2 Q. Okay. Now, this study claims that these  
3 viable and nonviable particles were well  
4 correlated; correct? That's what they claim?

5 A. That's what they claim.

6 Q. Okay. I would like you to flip with me  
7 to page 5.

8 A. Yeah, I'm here.

9 Q. Okay. You see there's some highlighted  
10 text there?

11 A. Yeah.

12 Q. That's what I want to ask you about.  
13 There's going to be some things in here I want to  
14 ask you about. The first sentence states:

15 "Several groups have reported on  
16 airborne contamination in the  
17 setting of the operating room in  
18 relation to the risk of surgical  
19 wound contamination..."

20 Do you see that?

21 A. I see that.

22 Q. That's sort of the -- kind of the issue  
23 we're talking about here today; correct?

24 A. Yeah. Yeah.

25 Q. Okay. The next sentence states:

1 "Environmental factors such as the  
2 use of forced air-warming blowers,  
3 and operating-room personnel  
4 variables including skin exposure  
5 and the number of people in the  
6 surgical suite, have all been found  
7 to affect the risk of surgical site  
8 infections..."

9 Do you see that?

10 A. That's what it says.

11 Q. You understand that there's been some  
12 studies on those issues?

13 A. Yes.

14 Q. Okay.

15 A. Yeah.

16 Q. Now, I think, if I'm not wrong, you  
17 don't agree that forced air warmers have an affect  
18 on surgical site infection?

19 A. Haven't we been through that before?

20 Q. If we have, I'm sorry, but it's in  
21 connection with this and I'm asking in the context  
22 of this. Do you have an opinion about whether  
23 forced air warmers have an effect on surgical site  
24 infections?

25 MR. GORDON: I object to the form

1 of the question.

2 A. Are we still talking about the paper  
3 itself?

4 BY MR. BANKSTON

5 Q. The paper right here, this statement.

6 A. Yeah.

7 Q. Okay. So let's look at the statement.

8 The use of forced air warmer blowers, does that  
9 have an effect, a risk of surgical site infections?

10 A. It says nothing about the paper.

11 Q. I don't -- I'm not asking you what --

12 A. Well, focus --

13 Q. I'm asking if you agree with that  
14 statement.

15 A. Focus in on the paper at hand,  
16 whether --

17 Q. All right. The paper in hand --

18 A. -- the title that it claims is actually  
19 supported by the data.

20 Q. But I'm asking you about this. I'm  
21 asking you about this paragraph.

22 A. I don't know anything about that.

23 Q. That's what I want to know. If you  
24 don't know anything about it, tell me you don't  
25 know anything about it.

1 A. Yeah. Yeah.

2 Q. So when it comes to whether forced air  
3 warmers affect the risk of surgical site infection  
4 in operating rooms, you don't have an opinion?

5 A. No.

6 Q. Thank you, sir.

7 A. Yeah.

8 Q. The next sentence states:

9 "Other areas of the hospital  
10 caring --"

11 Excuse me.

12 "Other areas of the hospital caring  
13 for high-risk patients with  
14 increased risk of nosocomial  
15 infection, such as burn units and  
16 hematology/oncology wards, have put  
17 air monitoring and quality systems  
18 into place..."

19 Do you see that?

20 A. I see that.

21 Q. Okay. The final sentence states:

22 "Thus reduced airborne particulates  
23 appear to correlate with a  
24 decreased risk of nosocomial  
25 infections in high-risk patient

1                   populations."

2                   Do you have any opinions about whether  
3   that statement is scientifically valid or not?

4           A.    That statement came out of the blue.  It  
5   has got no real backing to it.

6           Q.    Okay.  So your opinion is that statement  
7   has no support and is not true?

8           A.    No.

9           Q.    Okay.  Yes?  I'm sorry, it's --

10          A.    No.  No.  No.

11          Q.    And the question asked is you said it  
12   was not true.  There's the negative thing, and I  
13   think you're saying the opposite of what the  
14   transcript is going to reflect.

15          A.    It's not -- it's not true.

16          Q.    So you're saying this statement is not  
17   true?

18          A.    Yeah.

19          Q.    So this is another piece of  
20   peer-reviewed literature which disagrees with you,  
21   which you say is wrong?

22          A.    Correct.

23          Q.    Okay.  These -- these authors here, I  
24   take it you also say that they don't know what  
25   they're doing either; right?

1           A.    Well, are you coming back to the data or  
2 not? Because you -- you're trying to --

3           Q.    No. I'm just asking you do you -- do  
4 you -- what do you feel? Do you criticise this  
5 paper or not?

6           A.    I'm upset --

7           Q.    We have to take it one step at a time.

8           A.    I'm upset by the fact that you  
9 highlighted one correlated statement and then --  
10 and then you are jumping away from it and not  
11 wanting to know anything else about it.

12          Q.    Sure. If he has questions, he might ask  
13 you some. It's all good. Don't worry about it.

14          A.    Yeah.

15          Q.    If my highlighting upset you, I'm sorry  
16 about my highlighting. You can ignore my  
17 highlighting?

18          A.    Well, it upset me --

19          Q.    It's okay. Don't worry about it.

20          A.    -- because you are going from here --

21          Q.    Hmm hmm.

22          A.    -- into something else that has got no  
23 connection to it.

24          Q.    Yeah. I only have a limited amount of  
25 time today, Mr. Ho --

1 A. You brought the paper out here --

2 Q. -- so I'm going to go pretty quick.

3 A. -- for some purpose; right?

4 Q. Hmm hmm. To find out if you -- if you  
5 think this is a bad paper or not. Do you?

6 A. It is a terrible paper.

7 Q. Okay. Thank you, sir.

8 A. Yeah.

9 Q. So this is -- so this is another  
10 peer-reviewed paper that disagrees with you that  
11 you say is a terrible paper?

12 A. Are you not interested in knowing why  
13 it's terrible?

14 Q. No, I'm actually really not.

15 All right, sir, we're going to move  
16 on to a different thing now. Are you familiar with  
17 Dr. Darouiche and his work in aerobiology?

18 A. Remind me.

19 Q. Rabih Darouiche.

20 A. What did he do?

21 Q. One of the things he does I'm about to  
22 show you, but I was actually wondering if you had  
23 any -- knowing that you're a microbiologist, I  
24 thought you might know him personally. You don't  
25 know Dr. Darouiche?



1 A. I'm afraid not.

2 Q. And you're not familiar now, I take it,  
3 with Dr. Darouiche's reputation?

4 A. No.

5 Q. Okay.

6 MR. BANKSTON: This is the  
7 Darouiche article.

8 MR. GORDON: Is this going to be  
9 a new exhibit?

10 MR. BANKSTON: Yeah. Let's mark  
11 this as Ho 2.

12 A. Are we done with this?

13 Q. Yes, we are.

14 MR. BANKSTON: Mark this as Ho 2.

15 **EXHIBIT HO 2 - Report by**  
16 **Dr. Darouiche et al titled**  
17 **"Association of Airborne**  
18 **Microorganisms in the Operating**  
19 **Room With Implant Infections: A**  
20 **Randomized Controlled Trial"**

21 **BY MR. BANKSTON**

22 Q. I see you're reading the introduction  
23 there, and I wanted to know, have you ever seen  
24 this paper before?

25 A. No.

1 Q. Okay. So this is not something that you  
2 relied on when coming to your opinions about  
3 whether particles are proxies for bioburden?

4 A. Come again.

5 Q. This is not something that you reviewed  
6 when coming to your opinion that particles are not  
7 proxies for bioburden?

8 A. Yeah, I haven't seen this paper before.

9 Q. Okay. I'll tell you what? You want to  
10 take -- this one isn't too long, actually. This  
11 one only has about -- it looks like eight pages of  
12 text. If you want to review this to see if there's  
13 anything you want to look at before I start asking  
14 you questions, I'm going to ask you a few questions  
15 about this before we go to lunch.

16 A. Okay.

17 MR. GORDON: Did you say  
18 Darouiche was a microbiologist?

19 MR. BANKSTON: No. That him being  
20 in microbiology, I thought he might be familiar  
21 with his work in microbiology. Because, as you  
22 see, it's a study of airborne microorganisms. I  
23 thought it might have hit his Google alerts.

24 A. Do you have a copy that is not smeared?

25 Q. Yeah. That I sure don't, unfortunately.

1 A. They all turn out that way?

2 Q. Yeah. No, that's -- the original that I  
3 have looks like that.

4 A. I'm done.

5 Q. All right, let's get going.

6 All right. We are going to be  
7 talking about Ho Exhibit 2, which has been marked  
8 and put in front of you. This is a 2016 study by  
9 seven different researchers regarding the  
10 association of airborne microorganisms --

11 A. It was published in '017.

12 Q. I'm sorry. It says '16 on my copy. Oh,  
13 you're looking at the very top. Yeah. There's a  
14 disclosure down here at the bottom. It gives its  
15 publication date as October 26, 2016.

16 A. Okay.

17 Q. So I want to make it for the record?

18 A. Different from publishing date.

19 Q. Yes, exactly. Yes. So the published  
20 date is October 26, 2016.

21 MR. GORDON: Electronically.

22 A. No, '17 is the publish date.

23 BY MR. BANKSTON

24 Q. Oh, I see. So you're counting as when  
25 it appeared in print --

1 A. Yeah.

2 Q. -- as opposed to when it was first  
3 published?

4 A. Yeah.

5 Q. Right. Okay. Okay. So we can get it  
6 it was accepted in July 2016. It was first  
7 published electronically on October 26, 2016. And  
8 then published in the *Infection Control and*  
9 *Hospital Epidemiological -- Epidemiology* journal in  
10 January of 2017; is that correct?

11 A. Right.

12 Q. All right. So we're all on the same  
13 page on dates. This study concerns the Association  
14 of Airborne Microorganisms with implant infections;  
15 correct?

16 A. Correct.

17 Q. Okay. One of the things I think you'll  
18 notice when you first read the study is that one of  
19 the takeaways that they have is that the presence  
20 of airborne CFUs above a surgical site correlates  
21 well with infections in that surgical site;  
22 correct?

23 MR. GORDON: I object to the form  
24 of the question.

25 BY MR. BANKSTON

1 Q. That was one of their conclusions?

2 A. That's one of the assertions that  
3 they're making.

4 Q. Okay.

5 A. Yeah.

6 Q. And I want to talk about another  
7 discussion that they have. And if you would flip  
8 to me -- are these numbered? I don't think they  
9 are. One, two, three, four.

10 A. What four?

11 Q. And I'll show you this page so you can  
12 see what it looks like. And it has a chart down  
13 here. It should be your fourth page. We're  
14 looking at the same page. Excellent.

15 Do you see the section in the  
16 right-hand column, in the bottom of the right-hand  
17 column, entitled "CFU and Particulate Densities and  
18 Infection." I'm sorry, you may be looking at the  
19 chart. I can tell from your eyes. I'm actually  
20 talking about the text.

21 A. Oh.

22 Q. On the right-hand column do you see the  
23 section entitled "CFU and Particulate Densities and  
24 Infection?"

25 A. Right. Yeah.

1 Q. Okay. So that begins by saying that:  
2 "CFU density at incision sites was significantly  
3 related to [the] incident of implant infection ...  
4 but not of incisional infection..."

5 Do you understand the difference  
6 between those two types of infection?

7 A. Are you still looking at that first  
8 paragraph underneath the heading --

9 Q. The first sentence of the first  
10 paragraph, yes, sir, where it talks about: "CFU  
11 density at incision sites was significantly related  
12 to [the] incident of implant infection ... but not  
13 of incisional infection..." Do you understand the  
14 difference between those two types of infection?

15 A. Okay. I think I do.

16 Q. Okay. Which one are we talking about in  
17 this case, in this lawsuit?

18 A. In this particular discussion?

19 Q. In this lawsuit what kind of infections  
20 are we talking about?

21 A. They are not talking about incisional  
22 infections.

23 Q. Correct. We're talking about implant  
24 infections; right?

25 A. In this case?

1 Q. In this lawsuit --

2 A. Yeah.

3 Q. -- what you're here to testify about --

4 A. Right.

5 Q. -- is implant infections?

6 A. Right.

7 Q. Okay. You understand that the  
8 mechanisms, the biological, the physiological  
9 mechanisms by which an infection happens  
10 incisionally versus peri-prosthetically are  
11 different mechanisms? Do you have enough expertise  
12 to know that?

13 A. I don't --

14 MR. GORDON: I object to the form  
15 of the question.

16 A. Yeah. I think it's a bit technical for  
17 me here.

18 BY MR. BANKSTON

19 Q. Okay. Let's move on then to -- into  
20 that paragraph. That first part we were talking  
21 about was one of their findings. Another finding  
22 that they had was -- you see right after it says  
23 "Figure 4" there's a new sentence. And it says:

24 "CFU density was positively related  
25 to total particulate density ... in

1           the control group, indicating that  
2           airborne [particulate] counts may  
3           be used as a proxy for ambient CFU  
4           density."

5           I want to ask you about some terms that  
6           are used in there. First, because I don't think  
7           we've defined it so far, a CFU is a colony-forming  
8           unit; correct?

9           A.    Yeah.

10          Q.    Okay.

11          A.    Yeah.

12          Q.    And in this case, when they talk about  
13          CFU density, we can think about that as the amount  
14          of -- the total amount and concentration of  
15          airborne biological mass that they're measuring;  
16          correct?

17          A.    Right.

18          Q.    Okay. And their conclusion is, is that  
19          airborne particle counts correlate well and can be  
20          used as a proxy for the CFUs.

21          A.    What do you make of the following  
22          sentence after that?

23          Q.    We're going to keep going. Lets stay  
24          one step at a time.

25          A.    Yeah.



1 Q. Stop trying to figure out where we're  
2 going here, Mr. Ho. Let's try to answer the  
3 questions that are in front of you.

4 You understand that they found that  
5 airborne particle counts may be used as a proxy for  
6 ambient CFU density? That's what their statement  
7 there says?

8 MR. GORDON: I object to the form  
9 of the question.

10 BY MR. BANKSTON

11 Q. Correct?

12 A. That's what they say here.

13 Q. And that's something that you disagree  
14 with?

15 A. Right.

16 Q. Right. So much like the study by Stocks  
17 and his team, which you say you don't agree with --

18 A. Right.

19 Q. -- much like the study of Dr. Raval and  
20 his team, which you don't agree with; much like the  
21 statements of Mr. Olmstead, 3M's retained  
22 consultant, you don't agree with, you also don't  
23 agree with the seven researchers in this study that  
24 that can be used as a proxy between particulates  
25 and airborne biological matter?

1 A. Right.

2 MR. GORDON: I object to the form  
3 of the question.

4 BY MR. BANKSTON

5 Q. Okay. The next sentence says that: "No  
6 association between particle density and CFU could  
7 be determined in the intervention group --"

8 A. Demonstrated.

9 Q. Thank you, sir. "...could be  
10 demonstrated in the intervention group because  
11 68.1% of the 10-minute intervals had 0 CFU..." So  
12 there was no significant variation in CFU levels;  
13 correct?

14 A. That's what it says.

15 Q. It's impossible to measure something if  
16 it's not there; right?

17 A. That's what it says.

18 Q. So, for instance, if there are no  
19 particles, there will be no bacteria; correct?

20 A. Right.

21 Q. If there's no bacteria, there might be  
22 particles; right? You can have nonbacterial  
23 particles; correct?

24 A. Where are you going with this one?

25 MR. GORDON: Don't ask him where

1 he's going.

2 BY MR. BANKSTON

3 Q. No. Why do you keep doing that, Mr. Ho?

4 MR. GORDON: Just answer the  
5 question.

6 BY MR. BANKSTON

7 Q. It's a very simple question.

8 MR. GORDON: He asks --

9 BY MR. BANKSTON

10 Q. There can be particles that are non --

11 MR. GORDON: He asks bite-sized  
12 questions. Just answer them.

13 BY MR. BANKSTON

14 Q. To go us down a row. There are  
15 particles that are nonbiological? Those exist?

16 A. There are particles that are  
17 nonbiological --

18 Q. Yes. And those exist?

19 A. I suppose.

20 Q. I mean, of course -- I don't mean --  
21 what do you mean by "I suppose?" Do you have any  
22 doubt that those exist?

23 A. Well, I don't know what is it that  
24 you're trying to imply.

25 Q. Again, I'm not trying to imply anything.

1 What I want to understand, are all particles  
2 biological? Every particle in the world that you  
3 would consider an aerosol particle, are they  
4 biological?

5 A. No.

6 Q. Okay. That's what I'm trying to  
7 understand.

8 A. Yeah.

9 Q. So in this situation they were able to  
10 measure and they found that there were no  
11 biological CFUs, correct, in the intervention  
12 group?

13 A. Right.

14 Q. Okay. So if there are no CFUs to  
15 measure, you can't have a correlation measurement,  
16 can you?

17 A. Well, are you going to look at Figure 5  
18 eventually?

19 Q. I don't know what we're going to look  
20 at. It's going to depend a lot on what you say.

21 A. Because what the author wishes to say  
22 and what the data represents are different things.

23 Q. Why do you say that?

24 A. Because --

25 Q. Please explain. Go ahead.

1           A.    -- the interpretation of data is so  
2   important.

3           Q.    I'm not asking you if it's important.  
4   Why --

5           A.    Authors --

6           Q.    Why are they wrong?

7           A.    Authors always wish to say things that  
8   they set out to say. You know that.

9           Q.    Hold on. Are you -- are you claiming  
10   that Dr. Darouiche set out to prove a certain  
11   proposition in this report?

12          A.    Well, maybe --

13          Q.    What evidence do you have of that, sir?

14          A.    I'll let you in on a dirty little secret  
15   in that the purpose of somebody going to do a bunch  
16   of experiments is to hopefully get data to back up  
17   his expectation in the first place.

18          Q.    So you're saying --

19          A.    Are you surprised --

20          Q.    -- that you believe --

21          A.    -- to hear that?

22          Q.    I'm not -- I'm not surprised to hear  
23   anything from you today.

24          A.    Because --

25          Q.    What I'm -- what I'm asking you is do

1     you say --

2             A.     All I'm trying to tell you is so much of  
3     the papers that you have been presenting to us and  
4     Albrecht's group and all the other people,  
5     essentially we are -- we are looking at the same  
6     old theme. They all have expectations of what they  
7     want to see from a bunch of data that they do. And  
8     then -- and then they go and make statements to the  
9     effect. And then when you look at so much of the  
10    data, the data doesn't anywhere support --

11            Q.     Sir --

12            A.     It is easy for lay people to get taken  
13    by statements that have been written, but when  
14    you -- you don't even connect statements with data.  
15    The reason why data is given as graphs and plots is  
16    to -- is to actually try to convince the scientific  
17    authority that such data will support the  
18    statements being made. If you don't look at the  
19    data, you got nothing.

20            Q.     Done?

21            A.     Done.

22            Q.     Okay.

23            A.     Yeah.

24            Q.     Object as nonresponsive, object to the  
25    narrative.

1                               You don't know Dr. Darouiche?

2               A.     No.

3               Q.     You don't know what his motivations were  
4     in doing this study?

5               A.     No.

6               Q.     Do you know what his hypothesis was?

7               A.     Well --

8               Q.     Do you know?

9               A.     He thinks that first and foremost he  
10     could connect the infections that he saw with the  
11     concentration of culturable particles in the air.

12              Q.     That's his conclusion; right?

13              A.     He set out to show that.

14              Q.     Where do you see that he set out to do  
15     that? Where is his hypothesis, sir?

16              A.     Well, it's in the introduction.

17              Q.     Where does it say that he wanted to  
18     prove that this was true?

19              A.     Well, if that's not what he wants to  
20     show, then why bother to do any work?

21              Q.     So we don't do science unless we have an  
22     agenda? Is that what you're saying, sir?

23              A.     Well, look at the title. The whole  
24     title says that's what he intends to do.

25              Q.     You think that the title --

1 A. Yeah.

2 Q. -- which represents the findings of this  
3 study --

4 A. Yeah.

5 Q. -- represents what his agenda was in  
6 doing this study?

7 A. Exactly.

8 MR. GORDON: Objection,  
9 argumentative.

10 MR. BANKSTON: All right.

11 Q. So according to you, Dr. Darouiche's  
12 work and the work of his entire team is tainted  
13 because apparently they had some sort of agenda or  
14 motivation?

15 A. I didn't say that. I simply say that  
16 the data that is presented does not support the  
17 statement they are making.

18 Q. Why not?

19 A. Well, as I've said, look at the --

20 Q. I'm looking at it. Tell me why.

21 A. Look at Figure 4 and 5 in particular.  
22 Look at the -- are you familiar with the 95 percent  
23 confident interval?

24 Q. Pretend I'm not.

25 A. Okay. Look at -- look at Y Figure 4.



1 Look at the big gaping hole there. It is the size  
2 of a mile. Look at it.

3 Q. I don't know. What do you mean it's the  
4 size of a mile?

5 A. Well, between the upper and lower dotted  
6 traces --

7 Q. Hmm hmm. That are between .00 and .04?  
8 Is that the ones you're talking about?

9 A. Yeah. Yeah.

10 Q. Okay.

11 A. Look at how broad that is.

12 Q. How do I -- why is that broad?

13 A. Well, that signifies that the data  
14 excursion is very noisy. And it is convenient to  
15 convince people like you that the data is good  
16 because they got a solid line in the middle to make  
17 it look this nice, but you have to look at  
18 confidence limits. When your confidence limit is a  
19 mile apart, okay, look at how many times excursion  
20 the confidence intervals.

21 Q. Yeah. Yeah.

22 A. Don't you --

23 Q. Dr. Ho, both lines -- both of these  
24 dotted lines increase over time, don't they?

25 A. Well, look -- look as a simple example

1 the median --

2 Q. Hold on. I need you to answer my  
3 questions, Dr. Ho. Both of these dotted lines  
4 increase over time, over the graph?

5 MR. ASSAAD: Over mediancy.

6 BY MR. BANKSTON:

7 Q. Yeah, over mediancy --

8 A. This is not a -- this is not a time  
9 measurement.

10 Q. Right. So what I'm saying is time being  
11 the increase in median CFU per metre squared.

12 A. You are --

13 Q. You would agree with me that over the  
14 X axis, over median CFU per metre squared, both of  
15 these dotted lines increase?

16 A. It means that the noise is even worse on  
17 the higher concentration.

18 Q. I'm not sure if that answers the  
19 question if whether both of these dotted lines  
20 increase, Mr. Ho.

21 A. I'm trying to explain how you interpret  
22 that --

23 Q. I'm not asking you to explain how to  
24 interpret it.

25 A. If you --

1 Q. I'm asking you if these dotted lines  
2 increase over median CFUs per metre squared.

3 A. Yeah. And that's even worse than you  
4 think. They are increasing because --

5 Q. And you think that's bad?

6 A. -- there's noise. Look at noise. Look  
7 at the -- let's say CFU at 7.05, which is at 0.2.  
8 Okay.

9 Q. Describe to me the noise on Figure 5.

10 A. Well, in Figure 5, again, the noise is  
11 always there. It's over -- okay. You have to look  
12 at the total particle number concentration.

13 Q. Hmm hmm.

14 A. The upper limit is 1.2 million.

15 Q. Okay.

16 A. And that's a lot of particles. Compare  
17 that with the actual CFU per cubic metre. Okay.  
18 You are looking at not much more than 4, 5 -- 6 to  
19 be charitable.

20 Q. So you're saying it's a small, very tiny  
21 amount of bacteria?

22 MR. ASSAAD: 6? It goes to --

23 A. Well, when you are looking at --

24 MR. BANKSTON: Yeah, yeah, I know.

25 It doesn't matter.

1           A.    You see, it's easy to fool the lay  
2   people when you -- when you do a graphical plot  
3   because they don't truly know how much noise there  
4   is.

5                   BY MR. BANKSTON

6           Q.    Yeah, but that's not what I asked you,  
7   sir. I'm trying to understand. Your -- your point  
8   here is that there's not a lot of bacteria?

9           A.    A lot of -- a little signal, a lot of  
10   noise.

11          Q.    A tiny little bit of bacteria?

12          A.    Yeah. Not much.

13          Q.    A lot of particles?

14          A.    A lot of particles.

15          Q.    A tiny amount of bacteria?

16          A.    Yeah.

17          Q.    Do you any idea how much bacteria it  
18   takes to cause an orthopedic implant infection?

19          A.    Well, that's beside the point.

20                   MR. GORDON:           Objection, lack of  
21   foundation, asked and answered.

22          A.    You are trying to make the point --

23                   BY MR. BANKSTON

24          Q.    I'm wanting -- what I'm trying to  
25   understand --

1           A.    You are trying to make the point that  
2   particle measuring is the proxy for --

3           Q.    Hmm hmm.

4           A.    -- biological content.

5           Q.    I am.

6           A.    And when you got so much noise in your  
7   particle measurement, you cannot make a connection  
8   between live particles.

9           Q.    Now, you understand -- so we see here  
10   there's been some publications on the idea that  
11   particles are proxies for bioburden, and that's not  
12   something you agree with. You understood that was  
13   going on. Did you ever write a letter to any  
14   editor of any publication whoever published stuff  
15   like this?

16          A.    Why would I do that?

17          Q.    Because you care about science, sir.

18          A.    Well --

19          Q.    And good science. And if this is bad,  
20   fudged --

21          A.    If I were --

22          Q.    -- faked, horrible science --

23          A.    If I were to spend my time exposing all  
24   the bad science there is, there wouldn't be enough  
25   time for me to have dinner.

1 Q. Yeah. You see, it doesn't seem like you  
2 respect a lot of scientists. I get that.

3 MR. GORDON: I object to the form  
4 of the question, argumentative, move to strike.

5 BY MR. BANKSTON

6 Q. Have you published anything on this  
7 issue?

8 A. Pardon?

9 Q. Have you published anything on this  
10 issue?

11 A. What issue?

12 Q. Whether particles are a reasonable  
13 surrogate for measuring the amount of biomass in  
14 the air.

15 A. Let me put it this way.

16 Q. Have you published some or not?

17 A. The answer -- you see, there you go  
18 again.

19 Q. All right.

20 A. You want an actual answer --

21 Q. So I'm taking it --

22 A. -- but you don't --

23 Q. -- you may have published something that  
24 may have something to do with this?

25 A. When I looked at the number of particles

1 in air versus the actual live agents --

2 Q. Hmm hmm.

3 A. -- the data was so ridiculous that it's  
4 not worth publishing.

5 Q. Oh, okay. So you haven't published  
6 anything?

7 A. Exactly what I'm trying to say.

8 Q. Correct? Nothing you're saying on this  
9 subject has ever been peer reviewed?

10 A. That's right.

11 Q. Okay. Thank you, sir.

12 A. Sometimes things are so bad you don't  
13 want to publish them.

14 Q. There's no question to you right now,  
15 sir.

16 Did you know that 3M tried to study  
17 the infection issue using particle count study  
18 under laminar flow? Were you aware of that?

19 A. No.

20 Q. You didn't rely on the study by  
21 Dr. Sessler and Dr. Olmsted? You haven't reviewed  
22 that study?

23 A. I don't think so.

24 Q. Okay. So you didn't know that 3M did a  
25 study in which they measured particle counts on the

1 infection issue and found that the Bair Hugger  
2 increases particles at the surgical site?

3 MR. GORDON: I object to the  
4 form --

5 BY MR. BANKSTON

6 Q. Did you know that?

7 MR. GORDON: I object to the form  
8 of the question. It completely mischaracterizes  
9 the evidence.

10 A. It's strange you should say things like  
11 that.

12 BY MR. BANKSTON

13 Q. Strange that I should ask you --

14 A. Yeah.

15 Q. -- if you're aware of a study that found  
16 particle counts about the Bair Hugger increased?

17 A. Yeah.

18 Q. Why is that strange, sir?

19 MR. GORDON: I object to the form  
20 of the question. It completely mischaracterizes,  
21 misstates, and frankly fabricates evidence.

22 MR. BANKSTON: Yeah.

23 A. Ask me something useful.

24 BY MR. BANKSTON

25 Q. Sir, you don't get to choose the



1 questions I ask you. You don't. You are here as a  
2 paid privilege to be an expert in a U.S.  
3 litigation. Do you understand that?

4 MR. GORDON: I object to the form  
5 of the question --

6 BY MR. BANKSTON

7 Q. Do you understand that there's --

8 MR. GORDON: Argumentative.

9 BY MR. BANKSTON

10 Q. You understand there's a solemn thing  
11 about this? It's a serious matter?

12 MR. GORDON: Counsel, you know,  
13 the disrespect that you and your colleague have  
14 been showing with your sneers and your laughs and  
15 your --

16 MR. BANKSTON: This has been --

17 MR. GORDON: -- and your --

18 MR. BANKSTON: -- insane.

19 MR. GORDON: -- and your

20 ad hominem -- you know --

21 MR. BANKSTON: Sorry, it is.

22 MR. GORDON: I'm sorry, but

23 accusing --

24 MR. BANKSTON: It's ridiculous.

25 MR. GORDON: -- an expert of

1 being insane is really --

2 MR. BANKSTON: Some of the  
3 testimony here has been insane. I'm sorry.

4 MR. GORDON: Well, that may be  
5 your opinion, but --

6 MR. BANKSTON: Hmm hmm.

7 MR. GORDON: -- you know what --

8 MR. BANKSTON: Thank God for  
9 America where I can say it.

10 MR. GORDON: In the District of  
11 Minnesota we don't attack witnesses and we don't  
12 characterize --

13 MR. BANKSTON: Whoa, whoa, whoa.  
14 Don't start that with me.

15 MR. GORDON: -- their testimony  
16 as --

17 MR. BANKSTON: Don't start that  
18 with me.

19 MR. GORDON: -- insane on the  
20 record.

21 MR. BANKSTON: Like you haven't --  
22 your team hasn't attacked witnesses in this case.  
23 That's really funny.

24 BY MR. BANKSTON

25 Q. I'm asking you a very simple question.

1 MR. GORDON: I'm just asking you  
2 to show a little bit of civility, Mr. Bankson.

3 MR. BANKSTON: I'm fairly civil.

4 MR. GORDON: This isn't Texas.  
5 We're doing a District of Minnesota proceeding.

6 MR. BANKSTON: Oh, okay. There we  
7 go.

8 MR. ASSAAD: One request, Corey.  
9 I think the issue here is, first of all, there has  
10 been laughs and sneers. I think you -- I'm not  
11 saying it occurred, but you even atoned your own  
12 witness to answer the question because he's asking  
13 questions. I think at lunchtime you need to  
14 explain to your witness --

15 MR. GORDON: And I intend to do  
16 that, Gabriel.

17 MR. ASSAAD: Okay. And I think  
18 that's -- I think that's --

19 MR. GORDON: But in the  
20 meantime -- in the meantime how about a little bit  
21 of just civility?

22 MR. BANKSTON: I don't --

23 MR. GORDON: That's all I ask  
24 for.

25 MR. BANKSTON: Hey, I'm going to be

1 civil. I'm not going to attack anybody. Do I have  
2 any respect for what's going on in this room?  
3 Zero. So I don't -- I'm not going to pretend to  
4 respect what's going on in this room. I'll be  
5 civil.

6 MR. GORDON: And I'll let --

7 MR. BANKSTON: I'll shake  
8 everybody's hands when we're done here.

9 MR. GORDON: Whether you have any  
10 respect --

11 MR. BANKSTON: But I'm going to  
12 keep asking questions --

13 MR. GORDON: -- or not is really  
14 your --

15 MR. BANKSTON: -- and I would ask  
16 you just to make your objections.

17 MR. GORDON: -- is really  
18 irrelevant, and that's something that you should be  
19 either putting on the record --

20 MR. BANKSTON: All that I'm saying  
21 is you're asking --

22 MR. GORDON: -- or --

23 MR. BANKSTON: -- me to pretend to  
24 do something?

25 MR. GORDON: -- using your

1 personal feelings to --

2 MR. BANKSTON: I can't believe --

3 MR. GORDON: -- attack the

4 witness.

5 MR. BANKSTON: -- we're just

6 burning --

7 MR. GORDON: Just ask --

8 MR. BANKSTON: -- all this time

9 with colloquy.

10 MR. GORDON: -- the questions.

11 MR. BANKSTON: Make your

12 objections, man. That's it.

13 MR. GORDON: I am. I'm objecting

14 to your lack of civility.

15 MR. BANKSTON: All right.

16 MR. GORDON: This is not -- this

17 is not an inquisition.

18 MR. BANKSTON: Noted.

19 MR. GORDON: It is not an

20 opportunity for you to inflict your --

21 MR. BANKSTON: It is absolutely an

22 inquisition.

23 MR. GORDON: Not, it isn't.

24 MR. BANKSTON: All right. Noted.

25 I got your objection.

1 BY MR. BANKSTON

2 Q. Let's get back to what we were talking  
3 about, which is I asked you if you were aware if  
4 there was -- do you know if there's such a study  
5 that exists that 3M conducted that shows particle  
6 counts increase above the surgical site. Do you  
7 know if that exists?

8 A. No.

9 Q. Okay.

10 A. I do not know.

11 Q. And then do you have an opinion on why  
12 it would be strange that I would ask you that?

13 MR. GORDON: I object to the form  
14 of the question, lack of foundation.

15 A. You want to know why --

16 BY MR. BANKSTON

17 Q. Why you said it was strange that I asked  
18 you that. Yeah.

19 A. Why? Are you going to show me?

20 Q. No. No. No. You remember you told me  
21 it was strange that I asked you that. I was  
22 wondering why -- I was just wondering why that was  
23 strange.

24 A. Well, most of the time if you have  
25 evidence you pass it around.

1 Q. Oh, okay. From your legal education  
2 you're talking about?

3 A. Yeah. Are you going to pass it around,  
4 a 3M publication?

5 Q. No, I'm not. I'm wondering if you knew  
6 about it or relied on it. The purpose of this  
7 deposition is so I can figure out what your  
8 opinions are, what you relied on, et cetera. I  
9 don't want -- what I'm concerned about is if you  
10 show up at trial and say, "Oh, yes, I have seen the  
11 Sessler, Olmsted study."

12 A. Well, 3M is a --

13 Q. "Oh, yes, I am familiar with this."

14 A. 3M is a big company.

15 Q. Hmm hmm.

16 A. They can publish anything they want, and  
17 I don't need to know everything they publish.

18 Q. Okay, that's great. And I don't  
19 disagree with that.

20 A. Yeah.

21 Q. I'm not quarrelling with you on that.

22 A. Yeah.

23 Q. All I'm wondering -- I'm trying to make  
24 sure you have not relied on any studies by 3M  
25 regarding particle studies.

1 A. No.

2 Q. And you are not familiar with those  
3 studies?

4 A. I'm not familiar with them.

5 Q. Okay. And to your mind that's not  
6 something you would want to look at or is that  
7 something you want to look at? Would you be  
8 interested in them?

9 A. You see, now you're getting into a --  
10 into a situation that kind of starts to stray off  
11 the boundary, so to speak. Are you driving at  
12 something here?

13 Q. We have -- we have a judge who decides  
14 that.

15 A. Are you going to show us something?

16 Q. I'm asking you -- I don't have anything  
17 I'm specifically referring to.

18 A. Yeah. Yeah.

19 Q. This is everything under the sun.

20 A. Yeah.

21 Q. If there is a study out there -- I don't  
22 know if there's one. You don't know if there's  
23 one, apparently. Like I don't know.

24 A. Right. Right.

25 Q. I'm just saying if there's a study out



1       there --

2               A.     Right.

3               Q.     -- that measured particulates with the  
4       Bair Hugger --

5               A.     Yeah.

6               Q.     -- are you interested in seeing it?  
7       Would you like me to show it to you? Is that  
8       something you want to rely on?

9               A.     Are you going to show it to me?

10              Q.     I'm asking you if you want to rely on  
11     it. I'm not asking you do I want to show it to  
12     you. I'm saying if there's a study out there and  
13     it involved the Bair Hugger and you're -- and it  
14     involves particulate matter, and you're giving here  
15     today opinions on particulates, is that the kind of  
16     study you would want to see?

17                      MR. GORDON:               I object to the form  
18     of the question, vague.

19              A.     Well, that's an odd way to phrase the  
20     question because what will you learn or gain from a  
21     "yes," "no," "maybe" answer?

22                      BY MR. BANKSTON

23              Q.     I want to know --

24              A.     Yeah.

25              Q.     -- if you think it would be helpful to

1 you to have for your review studies that 3M has  
2 done concerning particulates? Do you think that  
3 would be helpful or do you think it would not be  
4 helpful?

5 MR. GORDON: The same objection.

6 A. Helpful to do what?

7 BY MR. BANKSTON

8 Q. To render your opinions in this case  
9 concerning Bair Hugger and particulates.

10 A. What -- let's say I would rather prefer  
11 that I go out and find peer-reviewed papers that I  
12 can actually look at and form a judgment --

13 Q. Okay.

14 A. -- rather than something that the  
15 company maybe handed to me.

16 Q. Okay. So you don't want stuff the  
17 company hands you? You want to go out and do your  
18 own research? That's the good methodology; right?

19 A. Yeah.

20 Q. Okay. And so if there was a  
21 peer-reviewed study out there involving the  
22 Bair Hugger and particulates, that might be  
23 something you would want to look at, but not just  
24 something the company hands you? Is that fair?

25 A. Yeah, that's fair.

1 Q. Okay. So if there is out there a  
2 peer-reviewed study that deals with particulates in  
3 the Bair Hugger and was sponsored by the company,  
4 does the fact that it was sponsored by the company,  
5 does that affect whether you would want to look at  
6 it?

7 A. I would certainly look at it very  
8 carefully and determine if the sponsorship taints  
9 the outcome.

10 Q. That's a good answer. Thank you, sir.

11 MR. GORDON: Move to strike  
12 counsel's commentary.

13 MR. BANKSTON: I was trying to be  
14 civil to -- let's go ahead and take lunch.

15 MR. GORDON: You know, but  
16 there's two sides of the coin --

17 MR. BANKSTON: Hmm hmm.

18 MR. GORDON: -- saying that's a  
19 good answer.

20 MR. BANKSTON: No, and I meant it  
21 genuinely. Like --

22 MR. GORDON: You may have. And  
23 I'm sure you meant it genuinely --

24 MR. BANKSTON: And I'm trying to  
25 encourage --

1 MR. GORDON: -- when you thought  
2 it was insane. Just don't comment.

3 THE VIDEOGRAPHER: Are we to go off the  
4 record? We're going off the record. The time is  
5 12:33 p.m.

6 -----  
7 Proceedings to recommence at 1:10 p.m.

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1 (Proceedings recommenced at 1:13 p.m.)

2 JIM HO, previously sworn

3 THE VIDEOGRAPHER: We are back on the  
4 record and the time is 1:13 p.m.

5 BY MR. BANKSTON

6 Q. Dr. Ho, earlier in the deposition we  
7 had -- we were discussing some issues in which you  
8 had told me that you had been involved in this case  
9 about three weeks or so?

10 A. That's when I first got involved with  
11 it.

12 Q. Okay. When you were first approached  
13 about this case, about three weeks ago?

14 A. Yeah.

15 Q. Okay. Today is the 28th of June?

16 A. Well, okay, let me -- let me ratchet  
17 back. Today is the -- no, it would be more like  
18 six weeks, though. Sorry.

19 Q. Okay.

20 A. Yeah.

21 Q. So you believe that you were retained  
22 six weeks ago. Do you know the date you were  
23 retained?

24 A. It would be like early May I would say.

25 Q. Okay.

1 A. Does it have to be exact?

2 Q. No, it doesn't have to be exact.

3 A. Early May.

4 Q. You don't have a document today with you  
5 that has that, do you?

6 A. No.

7 Q. Okay. So sometime in May, between  
8 May and June 1st, you formed all your opinions in  
9 this case?

10 A. Yes.

11 Q. Okay. So if your report was June 1st,  
12 any review of materials and any drafting of this  
13 report occurred in the approximate three weeks  
14 before that report was issued?

15 A. Right.

16 Q. Okay. How much have you charged 3M so  
17 far?

18 A. Nothing.

19 Q. You -- you do plan on charging them,  
20 don't you?

21 A. Eventually.

22 Q. Okay.

23 A. Yeah.

24 Q. You are keeping track of how much time  
25 you spend on this case, aren't you?

1           A.     Well, the -- I keep track of it because  
2     of the email correspondence that we have over the  
3     time. So I know roughly how much time I spend on  
4     it.

5           Q.     How much time have you spent?

6           A.     I don't have an exact number, but... I  
7     don't know. Do you need an exact number?

8           Q.     I would like to know how much you're  
9     getting paid for producing this report, yeah.

10          A.     Yeah, that --

11                 MR. GORDON:                 And, counsel, we  
12     will produce his invoices when he submits them.

13                 MR. BANKSTON:                Okay.

14                 MR. GORDON:                For now, you know,  
15     if you can --

16                 BY MR. BANKSTON

17           Q.     All right. Well, do you have an --

18                 MR. GORDON:                -- you can give an  
19     approximation.

20                 BY MR. BANKSTON

21           Q.     Yeah. Do you have an approximation of  
22     how long it took you to write this report?

23           A.     About 20, 30 hours.

24           Q.     Okay. Have you spoken with any other  
25     experts retained by 3M?

1 A. Have I spoken to any other experts?

2 Q. Hmm hmm.

3 A. Regarding this issue? No.

4 Q. Okay. Have you had conversations with  
5 other experts with 3M not regarding these issues in  
6 the case?

7 A. I've never spoke to anybody at 3M. Is  
8 that what you meant?

9 Q. No. Let me make it a little more  
10 clearer for you. You understand -- you don't work  
11 for 3M; right?

12 A. Correct.

13 Q. You're an independent expert?

14 A. Right.

15 Q. Who was hired in this case?

16 A. Right.

17 Q. To give opinions in this case?

18 A. Correct.

19 Q. You understand that there are other  
20 people in this lawsuit that 3M has also hired to  
21 give opinions in this case?

22 A. Yeah.

23 Q. Have you spoken with any of them?

24 A. No.

25 Q. Okay.



1 MR. GORDON: And, counsel, he may  
2 not be aware -- I think he's aware of it, but maybe  
3 not. He teaches a course with Thomas Kuehn, who is  
4 one of our experts.

5 Q. You know Thomas Kuehn?

6 A. I know Tom, yeah.

7 Q. Okay. I don't know if you knew this,  
8 but he's an expert in this case.

9 A. I've never spoken to him about this  
10 case.

11 Q. Okay. So you all have never had any  
12 contacts about the substance of this case?

13 A. No.

14 Q. You've had some professional  
15 conversations with him in the past?

16 A. Only because we teach a course together.

17 Q. Okay. What course do you all teach  
18 together?

19 A. It's called aerosol short course offered  
20 by the U of M.

21 Q. Okay.

22 A. You notice that one of my references was  
23 a paper that I published with him.

24 Q. So you've also published literature --

25 A. Yeah.

1 Q. -- together?

2 A. Yeah.

3 Q. Okay. And now you're working in this  
4 case, working on the same side together?

5 A. Well, only by coincidence. I wouldn't  
6 know he was working on the same case.

7 Q. So, for instance, you didn't refer him  
8 to 3M and he didn't refer 3M to you?

9 A. Well, I can't answer that.

10 Q. Okay. Well, at least with respect to  
11 yourself, you didn't refer Dr. Kuehn to 3M?

12 A. No.

13 Q. Okay. I want to talk to you now -- it  
14 would probably help to flip to page 17 of your  
15 report for this next little discussion.

16 MR. GORDON: I'm sorry, page?

17 MR. BANKSTON: 17.

18 A. I'm on it.

19 BY MR. BANKSTON

20 Q. One of the things you did in this case  
21 is review some literature relating to the  
22 Bair Hugger; correct?

23 A. Correct.

24 Q. And I see in this section you have  
25 several citations for published literature that you

1 discuss that you used to support your opinion;  
2 correct?

3 A. Right.

4 Q. Okay. I don't think we can get to all  
5 of them, but I -- I am a little limited on time,  
6 but I want to cover some of these. And the first  
7 one I want to talk about, you relied on a study by  
8 Zink and Iaizzo in 1993?

9 A. Yeah.

10 Q. Okay. And this was a study to try to  
11 determine if a forced-air warming unit was a  
12 bacterial risk; correct?

13 A. I suppose so.

14 Q. Well, do you understand that that was  
15 the study, what it was about? Or would you  
16 characterize it a different way maybe?

17 A. Well, let me go into the paragraph --

18 Q. Hmm hmm.

19 A. -- in a little deeper. Well, they --  
20 they use agar plates to measure airborne bacteria.

21 Q. Okay. So this is about an airborne  
22 bacteria risk with the Bair Hugger and whether or  
23 not it poses a risk; correct?

24 A. Right.

25 Q. Okay. Do you know who sponsored that

1 study?

2 A. Pardon?

3 Q. Do you know who sponsored that study?

4 A. I'm -- I'm guessing maybe it is  
5 sponsored by somebody connected to the Bair Hugger.

6 Q. Okay.

7 A. Yeah.

8 Q. That's a good guess.

9 A. Yeah.

10 Q. That's not something you had confirmed  
11 before citing the study, though?

12 A. Well, sometimes the connections are  
13 obvious, other times not.

14 Q. Okay.

15 A. So --

16 Q. You read Dr. David's report, correct,  
17 Dr. Yadin David?

18 A. Yeah.

19 Q. Okay. And he points out that this study  
20 was sponsored by Dr. Augustine; correct?

21 A. Okay. Yeah.

22 Q. Okay. There's nothing necessarily wrong  
23 with somebody sponsoring a study, is there?

24 A. In the -- in most pure science, if the  
25 sponsorship was specified above board, then there's

1 nothing wrong with it.

2 Q. Hmm hmm.

3 A. It's accepted that way.

4 Q. Okay.

5 A. Yeah.

6 Q. So, for instance, it's totally fine --  
7 well, first let's back up for a second. In your  
8 long career in dealing in published literature, I  
9 would take it you have some sort of knowledge about  
10 what constitutes proper research ethics and  
11 sponsorship of papers, for example; correct?

12 A. Correct.

13 Q. Okay. In your time that you've been  
14 publishing, I take it most of your publications  
15 have been sponsored by the Canadian government?

16 A. Maybe sponsorship would be not an  
17 appropriate term to use. Yes, I was -- I was paid  
18 a salary by National Defence to do what I was  
19 supposed to do.

20 Q. Oh, so it wasn't like there was specific  
21 grants --

22 A. Oh, no.

23 Q. -- for specific studies?

24 A. No, no.

25 Q. You're working around the clock salaried

1 to do this stuff?

2 A. Exactly.

3 Q. Okay. You understand that there are  
4 some academic researchers who different groups will  
5 sponsor a study. Say a device manufacturer will  
6 say, "We would like you to do a study and here's  
7 some money to do a study." That's not necessarily  
8 problematic; right?

9 A. It's not problematic if the sponsorship  
10 did not impose a criteria on the publication  
11 process.

12 Q. So, for example, if a sponsor says,  
13 "Researcher, we would like you to research this  
14 issue, here's the funding to do it, but we don't  
15 want to have anything to do with it and you go out  
16 there and you get your own independent opinions and  
17 we're not going to have anything to do with it,"  
18 that's -- that's above board; right?

19 A. That's fine.

20 Q. Okay. On the contrary, let's say that  
21 there was a sponsor and a doctor and they were  
22 collaborating together to put a positive spin on  
23 what they knew was a negative clinical result.  
24 That could pose problems, right, if there was  
25 evidence of that with respect to the studies about

1 the Bair Hugger?

2 A. Correct.

3 Q. Likewise -- let me give you another  
4 example. If a sponsor and an author were working  
5 together and that author said, "Well, you know,  
6 sponsor, if you don't like something in my paper,  
7 here's the manuscript, change whatever you want and  
8 make it whatever you want it to say," that's also  
9 could be problematic? That's the kind of bad  
10 research ethics we're talking about?

11 A. That's correct.

12 Q. Okay. Now, with respect to Iaizzo and  
13 Zink, did you have any evidence there was anything  
14 not above board going on there?

15 A. I would not be able to tell.

16 Q. Okay.

17 A. Yeah.

18 Q. So there is a potential conflict of  
19 interest whenever there's a sponsor, but in this  
20 case you don't know too much about the relationship  
21 between the sponsor and the study authors in this  
22 particular instance?

23 A. Right.

24 Q. Okay. Now, do you know what model  
25 Bair Hugger was used in Zink and Iaizzo's study?

1           A.    I don't specifically recall, but it  
2 might have been mentioned.

3           Q.    Okay.

4           A.    Yeah.

5           Q.    Do you remember the discussion in  
6 Dr. Yadin David's report where he discussed that  
7 these were a different model, a previous model of  
8 Bair Hugger? Do you remember that discussion?

9           A.    I -- I -- I vaguely know that there have  
10 been different generations of machines that were in  
11 existence.

12          Q.    Okay. This study, do you think that  
13 this study was done on the type of Bair Hugger  
14 that's featured in this case, in this lawsuit?

15          A.    I wasn't aware of that.

16          Q.    Would you agree with me that if that  
17 model of Bair Hugger was used, had different  
18 performance characteristics, that could be  
19 important?

20          A.    It would be.

21          Q.    So, for instance, if the Bair Hugger  
22 that was used in the tests had, say, roughly half  
23 as much airflow coming out of them, that could  
24 affect the results; right?

25          A.    I'm not clear how I would respond to



1 that because --

2 Q. Okay.

3 A. Yeah.

4 Q. Now, another thing we look at in these  
5 studies, in Zink and a couple of others, is about  
6 the Bair Hugger's filtration; right?

7 A. Right.

8 Q. Did you know that there was a completely  
9 different kind of filter being used in those  
10 studies than the ones that are featured in this  
11 case?

12 A. Yeah. I wouldn't know it until somebody  
13 specifies it in there.

14 Q. Okay.

15 A. Yeah.

16 Q. And you saw that in Dr. David's report;  
17 correct?

18 A. Yeah.

19 Q. So when you put these studies in your  
20 report, you knew that they involved a different  
21 Bair Hugger with different airflow and a different  
22 filter; correct?

23 A. Well, I suppose yes, but my -- my  
24 response was to -- for what the paper was implying  
25 at the time. Yeah.

1 Q. I'm not sure I understand what you mean  
2 by that.

3 A. Well, my judgment was according to what  
4 the author had described at the time.

5 Q. So you're making opinions about that  
6 Bair Hugger, not --

7 A. At the time.

8 Q. -- the Bair Hugger in this case?

9 A. Yeah.

10 Q. Okay. So your opinions here about Zink  
11 and Huang and Moretti, those apply to the  
12 Bair Hugger at the time they were studied?

13 A. Right.

14 Q. Not the Bair Hugger as it exists today?

15 A. Yeah.

16 Q. Okay. Thank you, sir.

17 MR. GORDON: I object to the form  
18 of the question.

19 BY MR. BANKSTON

20 Q. The next one I want to talk to you about  
21 is the next paragraph, the Huang study. Are you  
22 familiar with that study? Do you remember that?

23 A. The Huang study?

24 Q. Yeah. It was a biological aerosol test.

25 A. Yeah.

1 Q. Okay. You knew that study is not  
2 controlled; right?

3 A. What do you mean by "controlled?"

4 Q. I mean, it has -- it's not a controlled  
5 study. You understand that?

6 A. You mean they did not use a control  
7 experiment?

8 Q. Correct.

9 A. Okay.

10 Q. Right. And you knew that from reading  
11 Dr. Yadin David's report; correct?

12 A. Yeah.

13 Q. That that Huang study was not  
14 controlled?

15 A. Right.

16 Q. All right. Now let me ask you something  
17 about controlled experiments. The Huang study is  
18 still useful to you; right? You still find it to  
19 be a useful study?

20 A. Come again.

21 Q. The Huang study --

22 A. Right.

23 Q. -- is a useful study to you? You find  
24 it to be a useful piece of literature?

25 A. Yeah, I would say that.

1 Q. Yeah. You cited it as support for some  
2 of your opinions you're giving; correct?

3 A. Right.

4 Q. Now, what I want to know is does the  
5 fact that Huang in his biological study, does the  
6 fact that he didn't do a controlled study, does  
7 that mean that he's not familiar with  
8 microbiological concepts?

9 A. I can't state that. I can't say that.

10 Q. Okay. So just because somebody doesn't  
11 use a control, that doesn't necessarily mean that  
12 they're not familiar with how to do a proper  
13 microbiological study? Is that your testimony?

14 A. That's fair.

15 Q. Okay. Thank you, sir. You know, again,  
16 and I'll just circle back because we're going to  
17 cover them again, Huang is one of these studies  
18 that involved a predecessor model Bair Hugger in  
19 2002; correct?

20 A. If you say so, yes.

21 Q. Well, you reviewed -- you're  
22 responding -- one of the things you're doing in  
23 this case is responding to the report of Dr. Yadin  
24 David; right?

25 A. You see, I -- when I was starting to

1 look at the papers --

2 Q. Hmm hmm.

3 A. -- I -- I wasn't focusing on the  
4 different models that different people were using.

5 Q. Sure.

6 A. Yeah.

7 Q. I understand that.

8 A. I saw --

9 Q. When you read Dr. Yadin David's report,  
10 you understood that it was a different model of  
11 Bair Hugger with a different filter?

12 A. Yeah. Later -- much later I realized  
13 they were different models.

14 Q. Well, this is before you authored your  
15 report, though. You knew before you put Huang in  
16 your report that it involved a different model of  
17 Bair Hugger?

18 A. Yeah.

19 Q. Because you read Dr. Yadin David's  
20 report before you wrote your report; right?

21 A. Yeah. Yeah.

22 Q. Okay. The same is true with Moretti,  
23 correct, the Moretti study in 2009? Did you know  
24 that involved a predecessor model? You knew that  
25 from reading Dr. Yadin David's report; correct?

1 A. Okay.

2 Q. You agree; correct?

3 A. Yeah.

4 Q. Okay. And, in fact, do you remember  
5 from Dr. Yadin's report that it wasn't just the  
6 predecessor 505, it was something called the 505E.  
7 Do you remember the reference to the 505E?

8 A. I don't remember that well.

9 Q. Okay. Maybe it will help if I describe  
10 it this way. Do you remember Dr. Yadin David  
11 describing in his report the 505 European model,  
12 which had even less air flow?

13 A. No. I don't remember that much detail.

14 Q. Okay. You wouldn't dispute, though,  
15 that the Moretti study involved a predecessor model  
16 with even less airflow than what we've been talking  
17 about?

18 A. No.

19 Q. Okay. Did you know -- you knew also  
20 that Moretti wasn't randomized; right?

21 A. Yeah. Yeah.

22 Q. These studies, Huang, 16 people, I  
23 think, were involved in that study? A 16-person  
24 noncontrolled study; is that right?

25 A. I don't remember the exact numbers.

1 Yeah.

2 Q. Okay.

3 A. Yeah.

4 Q. Moretti, would you dispute to me that's  
5 20 people, nonrandomized?

6 A. Yeah. If you say so.

7 Q. You would agree with me those are pretty  
8 small sample sizes?

9 A. True. Yeah.

10 Q. Okay. I want to talk to you about --  
11 and let's see where I can direct you to it. The  
12 very bottom of page 18 is another study I want to  
13 discuss.

14 A. Yeah.

15 Q. And that's the Yu study. And this is a  
16 study about -- about swabbing and showering. Do  
17 you remember this study?

18 A. Yeah. Yeah.

19 Q. Okay.

20 A. Yeah.

21 Q. Now, from your report, what I'm taking  
22 away from what you're saying here, and you can tell  
23 me if I'm wrong, is that this swabbing for CFUs  
24 showed it's not a concern -- let me start that  
25 over.

1                   What you showed was that swabs of  
2   skin near the surgical site that showed the  
3   presence of potential pathogens, it's not a cause  
4   for alarm because it didn't have any difference in  
5   the incident of infection?

6           A.    Correct.

7           Q.    Okay. Do you know what kind of  
8   infections were being studied?

9           A.    Do I know what kind of infections were  
10   being studied?

11          Q.    Yes.

12                   MR. ASSAAD:                   In the article.

13                   BY MR. BANKSTON

14          Q.    In the article, in the Yu study.

15          A.    I'm not sure they were looking at any  
16   specific infections. They were just looking at  
17   whether there was any.

18          Q.    So you... Well, from my reading of you,  
19   this involves superficial wound infections. Would  
20   you agree with that?

21          A.    Well --

22                   MR. GORDON:                   Objection, lack of  
23   foundation.

24          A.    They -- they were doing sampling on the  
25   skin, yes. Yes. If that's what you mean.



1 BY MR. BANKSTON

2 Q. Well, that's where they found the  
3 bacteria, right, is on the patient's skin?

4 A. Right.

5 Q. And what they were measuring, the  
6 outcome -- the clinical outcome they were measuring  
7 was superficial wound infections?

8 A. Yeah, from -- from shower or no shower.

9 Q. And you will agree with me that this  
10 study doesn't have anything to do with  
11 peri-prosthetic joint infections; right?

12 A. Correct.

13 MR. GORDON: I object to the form  
14 of the question, lack of foundation.

15 BY MR. BANKSTON

16 Q. And you've agreed with me before that  
17 the mechanism of infection between superficial  
18 wound infections and peri-prosthetic joint  
19 infections are different?

20 MR. GORDON: Objection, lack of  
21 foundation.

22 A. Probably true.

23 BY MR. BANKSTON

24 Q. Okay. You would agree with me that this  
25 Yu article has no relevance to the type of

1 infection that the plaintiff suffered?

2 A. The reason why that article was put in  
3 was to illustrate that even though you are swabbing  
4 bacteria off the skin, it has got no direct  
5 connection to whether that would cause infections  
6 or not.

7 Q. Well, it certainly is saying that it  
8 wouldn't have any effect on superficial wound  
9 infections; right? That's what it's saying?

10 A. Yeah, but what else --

11 Q. Is it -- is it --

12 A. What else can you say about that?

13 Q. Is it making any statement whatsoever on  
14 the cause of peri-prosthetic joint infection?

15 A. No.

16 Q. And those two mechanisms are  
17 different --

18 A. Right.

19 Q. -- correct?

20 A. Yeah.

21 Q. In fact, you remember when we looked at  
22 the Darouiche article; right? Do you remember  
23 that?

24 A. Yeah. Yeah.

25 Q. And you'll remember -- let's go back to

1 the page we were looking at, and I'll put it in  
2 front of you.

3 MR. GORDON: This is Exhibit 2,  
4 Ho Exhibit 2?

5 MR. BANKSTON: No. Yeah, the Ho  
6 Exhibit 2.

7 Q. Do you have Ho Exhibit 2 in front of  
8 you?

9 A. Yeah.

10 Q. All right. Let's look at that  
11 paragraph we looked at. And that was a couple of  
12 pages in. I believe it will be page 4 for you.

13 A. Yeah.

14 Q. All right. And you notice there at the  
15 beginning it said that: "CFU density at incision  
16 sites was significantly related to [the incident]  
17 of implant infection ... but not of incisional  
18 infection..." Do you see that?

19 A. All right, I see that.

20 Q. What we can conclude from all of this is  
21 that what may or may not cause a superficial wound  
22 infection is distinct from what may or may not  
23 cause a peri-prosthetic joint infection.

24 MR. GORDON: Objection --

25 BY MR. BANKSTON

1 Q. Do you agree to that?

2 MR. GORDON: Objection, lack of  
3 foundation.

4 A. I'm afraid I can't answer that question.  
5 It's --

6 BY MR. BANKSTON

7 Q. Is that a bit outside your field?

8 A. Yeah.

9 Q. Okay.

10 A. Yeah.

11 Q. Okay. So in terms about whether the Yu  
12 study is in any way relevant to the types of  
13 infections that were suffered in this case, that's  
14 also something that's going to be a little bit  
15 outside your area?

16 A. It wasn't implied anyway in the  
17 discussion. It wasn't implied.

18 Q. What wasn't implied, sir?

19 A. It was simply -- the implication was  
20 just if you did swabbing of the -- of anything,  
21 skin in particular, it has got no bearing on any  
22 sort of infection.

23 Q. Any sort of infection? You believe  
24 that?

25 A. In this example.

1 Q. Okay.

2 A. That's what's reported.

3 Q. So, according to your testimony, the Yu  
4 study, you feel comfortable saying it applies to  
5 the type of infections that were in this case?

6 MR. GORDON: Well, objection,  
7 lack of foundation.

8 A. What was that question again?

9 BY MR. BANKSTON

10 Q. According to your testimony, you feel --  
11 oh, no, hold on. That wasn't it.

12 So according to your testimony, the  
13 Yu study, you feel comfortable saying that it  
14 applies to the type of infections we have in this  
15 case?

16 A. No, I don't think I can make that jump  
17 to say that.

18 Q. Okay. And in fact you cannot say  
19 whether this study is relevant to the type of  
20 infections in this case?

21 A. Well, this study was only to illustrate  
22 that by the mere presence of swabbing of the skin.  
23 It does not imply anything else beyond that. I'm  
24 simply giving the example of swabbing doesn't  
25 illustrate anything.

1 Q. Okay. So I guess the conclusion is if  
2 you swab bacteria off of a person's skin --

3 A. Yeah.

4 Q. -- that doesn't necessarily mean they'll  
5 get an incisional infection?

6 A. Right.

7 Q. What relevance does that have to a deep  
8 joint infection?

9 A. Nothing.

10 Q. Okay. Thank you, sir. I want to talk  
11 to you now on page 20 and stretching into 21. So  
12 that's going to be the bottom paragraph on page 20.  
13 Are you with me now?

14 A. Right.

15 Q. Okay. That talks about the Richard  
16 study. Do you remember this study, that used ATP  
17 bioluminescence swabs?

18 A. Right.

19 Q. Okay. You will agree with me that what  
20 your interpretation of this study is, that the  
21 authors considered the degree of bioburden as  
22 relatively small compared with other OR surfaces?

23 A. Yes.

24 Q. Okay. Can you tell me if there is any  
25 OR surface that you can think of where 40 plus

1 cubic feet per minute of air is passing along it in  
2 a tight narrow tube?

3 MR. GORDON: Objection, lack of  
4 foundation.

5 A. You have to say that slowly.

6 BY MR. BANKSTON

7 Q. Sure. Can you think -- in fact I'll  
8 make it a little more generic.

9 A. Right.

10 Q. Can you think of any OR surface used in  
11 an orthopedic surface, any surface in the OR, in  
12 which 40 cubic feet per minute of air are blown  
13 across that surface towards the patient?

14 MR. GORDON: Objection,  
15 foundation.

16 A. So what's the question?

17 BY MR. BANKSTON

18 Q. Can you think of any OR surface -- all  
19 right. So that's the first part of the question --

20 A. Yeah.

21 Q. -- OR surfaces.

22 A. Right.

23 Q. Can you think of any OR surface used in  
24 an orthopedic procedure in which 40 cubic feet a  
25 minute of air are blown across that surface towards

1 the patient?

2 MR. GORDON: Objection, lack of  
3 foundation.

4 A. The answer is no.

5 BY MR. BANKSTON

6 Q. Okay. Let's talk about some of the  
7 nonsterile surfaces in an OR. Like say -- I'm sure  
8 you've seen some operating room -- I know you  
9 haven't seen orthopedic surgery, but you've seen an  
10 operating room on TV or something like that or been  
11 in an operating room before?

12 A. Yeah.

13 Q. Okay. You understand, for instance,  
14 there's a surgical tray with instruments on it?

15 A. Right.

16 Q. It may not be sterile; right?

17 MR. GORDON: Objection, lack of  
18 foundation.

19 A. Oh, I don't know. Why do you say that?

20 BY MR. BANKSTON

21 Q. I don't know. I'm asking. You're kind  
22 of an expert on this. Or are you an expert on  
23 this? Can you tell me what surfaces are or are not  
24 sterile in an OR?

25 A. I really can't tell you that because...



1 No, I can't tell you that.

2 Q. Okay. Do you understand what I mean  
3 when I say the "sterile field" in an orthopedic  
4 surgery?

5 A. Sterile field?

6 Q. Correct.

7 MR. GORDON: Objection to the  
8 form of the question.

9 BY MR. BANKSTON

10 Q. Have you heard that term before?

11 A. No.

12 Q. Okay. You understand that in orthopedic  
13 surgery, when you're over the table there's a knee  
14 or a hip exposed that you're working on?

15 A. Right.

16 Q. Okay. The area immediately in and  
17 around that area --

18 A. Right.

19 Q. -- you would agree that needs to stay  
20 sterile?

21 MR. GORDON: Objection, lack of  
22 foundation, assumes facts not in evidence.

23 A. Do I agree --

24 BY MR. BANKSTON

25 Q. Hmm hmm.

1 A. -- that it should be sterile?

2 Q. There should be a sterile field above  
3 that wound?

4 MR. GORDON: Objection, lack of  
5 foundation, vague.

6 A. That would be helpful.

7 BY MR. BANKSTON

8 Q. Okay.

9 A. Yeah. But not easily achievable.

10 Q. You want to do everything possible to  
11 try to make it as sterile as possible, though?  
12 Would you agree that's a good practice?

13 MR. GORDON: Objection, lack of  
14 foundation.

15 A. Yes and no.

16 BY MR. BANKSTON

17 Q. Okay.

18 **EXHIBIT H0 3 - Coloured photograph**  
19 **of surgeons operating**

20 BY MR. BANKSTON

21 Q. Dr. Ho, I've handed you what's been  
22 marked as Ho Exhibit 3. Have you ever seen that  
23 kind of surgical garb before?

24 A. Have I seen one in real life?

25 Q. No. Have you seen that kind of garb,

1 that clothing, before.

2 A. Yeah.

3 Q. Okay.

4 A. I've seen the design, yeah.

5 Q. And that's -- that's the same kind of  
6 clothing you would traditionally use in, say, a  
7 clean room; correct?

8 MR. GORDON: Objection, lack of  
9 foundation.

10 A. I can't -- I can't categorically say  
11 that that's what you see everywhere.

12 BY MR. BANKSTON

13 Q. Right.

14 A. Yeah.

15 Q. Okay.

16 A. Yeah.

17 Q. But, for instance, you've seen people --  
18 I don't know if you've seen -- like, for instance,  
19 in the field I grew up on, astronomy, putting  
20 together the Voyager space probe. You see men in  
21 rooms with suits that look something like that;  
22 right? Have you seen that before?

23 A. Yeah, I've seen that before. Yeah.

24 Q. Okay.

25 A. Yeah.

1 Q. What I'm asking you is does that look  
2 like a typical surgery to you?

3 MR. GORDON: Objection, lack of  
4 foundation.

5 A. I wouldn't know how -- how to interpret  
6 that because one would have to spend a lot of time  
7 in the surgical ward to tell that.

8 BY MR. BANKSTON

9 Q. Okay. And I know you're not an expert  
10 on this, and I'm not trying to, you know, hold you  
11 to account on that, but you've seen some surgeries  
12 before in your life? You've seen how surgeons  
13 dress?

14 A. Well, not exactly.

15 Q. Do you remember when that show -- I'm  
16 sorry to interrupt you. Do you remember that show  
17 was on NBC called "ER" or when there was that TV  
18 show called "M\*A\*S\*H" or some of those shows? We  
19 see surgeons on TV from time to time; right?

20 A. Well, I don't -- I don't -- I don't want  
21 to claim that movie, fictional --

22 Q. Sure.

23 A. -- depictions are real life.

24 Q. Okay.

25 A. It's not fair, is it?

1 Q. Have you seen -- I know you haven't seen  
2 orthopedic surgeries before, but have you seen how  
3 surgeons dress for other kinds of surgeries?

4 A. Yeah. Not any real live surgeons  
5 because they usually do it in the background.

6 Q. Sure. Okay. The surgeons that you've  
7 seen dressed, have you seen them dressed like that?

8 A. As I said, I haven't seen any real live  
9 surgeons at work.

10 Q. Okay. The other thing I wanted to ask  
11 you is in that picture do you see any exposed OR  
12 surfaces in the immediate area of the surgery? Or  
13 are all the surgery -- is all of it draped and  
14 wrapped?

15 MR. GORDON: Objection, lack of  
16 foundation.

17 A. In this picture?

18 BY MR. BANKSTON

19 Q. In that picture.

20 A. Do I see any exposed surfaces?

21 Q. Any exposed surgical tables, trays,  
22 anything like that?

23 A. Not shown in this picture.

24 Q. Okay. Nothing anywhere close to the  
25 person's knee either; right? There's no exposed

1 surfaces?

2 A. No.

3 Q. Let's say you had an uncovered,  
4 nonsterile piece of equipment, right, in an  
5 operating room and you took a hairdryer and you  
6 blew it along the side of it towards the patient  
7 who was having surgery. Would that be of concern  
8 to you?

9 A. Okay. Now you're offering me two  
10 things.

11 Q. Hmm hmm.

12 A. A hairdryer --

13 Q. Sure.

14 A. -- and uncovered, exposed surface?

15 Q. Sure. Yeah. Any piece -- any piece of  
16 equipment in an OR that might not be sterile.

17 A. Why are the two connected?

18 Q. I'm asking you if you would be concerned  
19 about that. Well, let's back up to Richard's  
20 study. You understand that Richard's study, he  
21 tested a lot of different surfaces in the OR?

22 A. Hmm hmm.

23 Q. A lot of them had bacteria on them?

24 A. Yeah.

25 Q. All right. So if you went to one of

1     those surfaces -- say the surgical light. Do you  
2     remember how in Richard's study he tested the  
3     surgical light?

4             A.     Hmm hmm.

5             Q.     All right. Let's say you didn't have it  
6     covered for an orthopedic procedure. And instead  
7     you went up to the surgical light above the patient  
8     and took a blow dryer and blew it along its surface  
9     during the surgery. Is that in any -- is that  
10    potentially problematic to you?

11            A.     First of all, that is an unlikely  
12    occurrence --

13            Q.     Hmm hmm.

14            A.     -- because it's an unconventional thing  
15    to do.

16            Q.     It is unconventional to blow hot air in  
17    an operating room?

18            A.     No, no. You don't take a hairdryer into  
19    anyplace and blow with it.

20            Q.     Why not?

21            A.     Specifically a hairdryer.

22            Q.     Why wouldn't you want to do that?

23            A.     Well, you wouldn't be allowed to do that  
24    in the first place. You would be chased out of the  
25    room.

1 Q. Why is there a rule against that?

2 MR. GORDON: Objection, lack of  
3 foundation.

4 A. I don't know.

5 BY MR. BANKSTON

6 Q. What concerns might it pose to run a  
7 hairdryer along a nonsterile surface?

8 A. People, maybe nurses at least, to  
9 regulate unnecessary activity in there.

10 Q. Right. But you would agree --

11 A. It's not -- it's not something that they  
12 do as a routine thing.

13 Q. Sure. And you would agree with me that  
14 the introduction of a fast-moving fluid, in this  
15 case hot air, moving at a high -- at a rate of  
16 speed along a nonsterile surface could introduce  
17 biological particles into the airflow?

18 A. I -- I can't agree on that because it's  
19 not something that has been done.

20 Q. All right. Let's talk a little bit  
21 about page 21 of your report. And there --

22 MR. GORDON: We're done with  
23 Exhibit 3?

24 MR. BANKSTON: Yeah, we're done  
25 with that.



1 Q. And there in the first full paragraph is  
2 the discussion of the Oguz study. I think I'm  
3 saying that right. Oguz maybe. We'll try to  
4 figure out how to maybe say that, but I believe  
5 it's Oguz.

6 A. Yeah.

7 Q. That is a study that you also cited in  
8 your report concerning your opinions on the safety  
9 of forced-air warming; right?

10 A. Right.

11 Q. Okay. You understand that that study  
12 explicitly states that it is not a safety statement  
13 on forced-air warming?

14 A. Come again.

15 Q. That study that you are citing --

16 A. Yeah.

17 Q. -- states explicitly that it is not a  
18 safety statement on forced-air warming?

19 A. Are you saying that this is what the  
20 author said or --

21 Q. Yes. In the text of the study, you  
22 understand that it says -- it warns that this is  
23 not a safety statement on forced-air warming?

24 A. Okay.

25 Q. Did you understand that?

1           A.    Yeah.  I don't exactly remember that  
2   being mentioned, but...

3           Q.    Well, it's in your report, isn't it,  
4   that statement?  In fact let's look in the middle  
5   of the paragraph.  In about the middle of the  
6   paragraph you're going to find a sentence that says  
7   "The study may obviously..."  Do you see the start  
8   of that sentence?

9           A.    I see that.

10          Q.    All right.  "The study may obviously not  
11   be generalized for an overall safety statement on  
12   forced air warming..."  Correct?

13          A.    Right.

14          Q.    And in fact it's only applicable  
15   primarily in that particular surgical set-up;  
16   correct?

17          A.    It says that, yeah.

18          Q.    Okay.  Nonetheless, you have cited it  
19   here to support your opinion that the Bair Hugger  
20   is safe; correct?

21          A.    Yeah.

22          Q.    Okay.  Despite that author's warning?

23               MR. GORDON:           Well, I object to  
24   the form of the question.  Also an incomplete  
25   reading of the author's statement.

1 BY MR. BANKSTON

2 Q. Correct?

3 MR. GORDON: I'm sure you know  
4 how to read.

5 A. Yeah.

6 BY MR. BANKSTON

7 Q. Okay. You know what kind of surgeries  
8 were done in this study?

9 A. No.

10 Q. Would it surprise you that only two out  
11 of the whole group, 5 percent, involve total knee  
12 operations like we see in this kind of case? Does  
13 that surprise you, sir?

14 A. Am I surprised?

15 Q. Yes.

16 A. No.

17 Q. So, again, and this is another one of  
18 those studies that may not be directly relevant to  
19 the issues we're talking about in this case?

20 MR. GORDON: Objection, lack of  
21 foundation, assumes facts not in evidence.

22 A. Why -- why are you saying that?

23 BY MR. BANKSTON

24 Q. Because, one, sir, you'll agree with me,  
25 it says it is not a safety statement on forced-air

1 warming; two, because it says that it is only  
2 primarily applicable to that particular surgical  
3 set-up; and, three, because that particular  
4 surgical set-up is not what is at issue in this  
5 case.

6                   You would agree if those three  
7 things were true this study has little, if any,  
8 relevance to this case?

9                   MR. GORDON:               Objection,  
10 mischaracterizes the evidence. It assumes facts  
11 not in evidence.

12               A.     So the question then is?

13                   BY MR. BANKSTON

14               Q.     Oh, yeah. This is going to be a long  
15 one. Let's just try that again.

16                   We have discussed three  
17 propositions about this study. The first  
18 proposition being it is not a safety statement on  
19 forced-air warming; correct?

20                   MR. GORDON:               Objection --

21                   BY MR. BANKSTON

22               Q.     Would you agree with that?

23                   MR. GORDON:               Objection, lack of  
24 foundation, mischaracterizes the statement in the  
25 study.

1 BY MR. BANKSTON

2 Q. Actually, we're not characterizing  
3 statements in the study, are we, sir? We are  
4 characterizing the words you chose, which is:

5 "The study may obviously not be  
6 generalized for an overall safety  
7 statement on forced air warming,  
8 and is primarily applicable [to]  
9 the particular surgical setup."

10 Those are the words you chose to include  
11 from this study?

12 MR. GORDON: That is part of a  
13 quote. That's not his statement.

14 MR. BANKSTON: That's what I just  
15 said, Corey.

16 MR. GORDON: No, you --

17 MR. BANKSTON: I said, "Those are  
18 the words that you chose from the study to include  
19 in your report."

20 MR. GORDON: Why don't you read  
21 the rest of the quote?

22 MR. BANKSTON: I don't -- you have  
23 all the option of completeness you want. I'm  
24 asking him about a single statement. If you make  
25 me read every statement and everything, we're going

1 to be here all day.

2 MR. GORDON: Yeah, but when you  
3 take something clearly out of context, it's not --

4 MR. BANKSTON: Make your objection,  
5 Peter.

6 MR. GORDON: -- it's not fair.

7 MR. BANKSTON: Corey. I'm sorry.  
8 Make your objection.

9 MR. GORDON: I object to the form  
10 of the question.

11 BY MR. BANKSTON

12 Q. All right. So we have the words that  
13 you had put in this paper from -- from the Richard  
14 study, which is it is not a safety statement on  
15 forced-air warming? Do you agree you included  
16 that?

17 MR. GORDON: I think you meant  
18 Oguz.

19 A. That's what the author say.

20 BY MR. BANKSTON

21 Q. Okay. And that is what you've quoted  
22 here in your report; correct?

23 A. It's there, yeah.

24 Q. The next thing they said, it was really  
25 primarily applicable to that particular surgical

1 set-up; correct?

2 MR. GORDON: Objection, lack of  
3 foundation, mischaracterizes the --

4 BY MR. BANKSTON

5 Q. That's what it says right there, doesn't  
6 it?

7 A. Yeah, it says that.

8 MR. GORDON: You said "the next  
9 thing."

10 BY MR. BANKSTON

11 Q. Okay. So that's the next part of that  
12 sentence.

13 And then the third thing we  
14 discussed is that the surgeries involved do not  
15 involve the kind of surgeries we see in this case?

16 MR. GORDON: Objection,  
17 mischaracterizes -- assumes facts not in evidence.

18 A. I didn't get the third part.

19 BY MR. BANKSTON

20 Q. Okay. Assume with me for a moment if  
21 this study -- if this study did not focus on knee  
22 operations, it was a totally different surgical  
23 set-up, and it is only primarily applicable to that  
24 surgical set-up, it has little relevance to this  
25 case, doesn't it?

1                   MR. GORDON:                   I object to the form  
2 of the question, it assumes facts not --

3                   A.     I can't --

4                   MR. GORDON:                   -- in evidence, lack  
5 of foundation.

6                   A.     I can't extrapolate on that one.

7                   BY MR. BANKSTON

8                   Q.     Okay, be careful. You need to let him  
9 do his little thing before you start giving your  
10 answers, all right?

11                             Let me ask what you've just said  
12 there so I can clarify because I'm not sure I  
13 totally heard it. But basically you say you cannot  
14 offer an opinion about whether what I'm saying is  
15 true or not?

16                   A.     I'm getting the impression that you want  
17 me to extrapolate on what is being done here to  
18 everywhere else.

19                   Q.     No, sir. What I'm really asking is you  
20 cited this work, as we agreed, in support of your  
21 opinions on the safety of forced-air warming?

22                   A.     Right.

23                   Q.     Okay. This study specifically says it's  
24 not a statement on forced-air warming safety and  
25 that it's primarily applicable only to that



1 particular surgical set-up. Do you think it is  
2 scientifically methodologically sound to use that  
3 study for the purpose of which you want to use it  
4 when the author has expressly disclaimed that  
5 purpose?

6 MR. GORDON: I object to the form  
7 of the question, it mischaracterizes the  
8 evidence --

9 A. What --

10 MR. GORDON: -- it assumes facts  
11 not in evidence. Wait, wait, wait --

12 BY MR. BANKSTON

13 Q. You have to stop.

14 MR. GORDON: -- until I'm through  
15 with my objection. Lack of foundation,  
16 mischaracterizes the study, assumes facts not in  
17 evidence.

18 BY MR. BANKSTON

19 Q. Now you can go. You're good now.

20 A. I'm still a little confused as to what  
21 is it that you think I'm trying to characterize.

22 Q. You told me --

23 A. Yeah.

24 Q. -- you were citing this study --

25 A. Right.

1 Q. -- to support your opinion on the safety  
2 of forced-air warming; correct?

3 A. Right.

4 Q. You will agree with me the authors  
5 expressly disclaim that it is a statement on the  
6 safety of forced-air warming; correct?

7 MR. GORDON: Objection,  
8 mischaracterizes his testimony, assumes facts not  
9 in evidence, completely takes it out of context.  
10 At this point you are badgering the witness, and  
11 it's really unfair.

12 MR. BANKSTON: If you think he's  
13 being responsive, that is -- I don't know what to  
14 say, because he's not being responsive. He's  
15 simply not being responsive.

16 MR. GORDON: Well, because --

17 MR. BANKSTON: We'll go ahead and  
18 move on.

19 MR. GORDON: Because you're just  
20 making stuff up and then getting --

21 MR. BANKSTON: I don't understand  
22 why --

23 MR. GORDON: -- trying to badger  
24 him into agreeing with you.

25 BY MR. BANKSTON

1 Q. Okay. You know what, Dr. Ho? Because  
2 we have this big -- let's go ahead and read the  
3 entire quote.

4 "In our study it was not possible  
5 to detect any higher bacterial  
6 counts on any plate in the forced  
7 air warming group versus the  
8 resistive warming group. The study  
9 may obviously not be generalized  
10 for an overall safety statement on  
11 forced air warming, and is  
12 primarily applicable in the  
13 particular surgical setup."

14 Is that a full reading of what that  
15 phrase was?

16 A. That's a quotation.

17 MR. GORDON: No.

18 BY MR. BANKSTON

19 Q. Now let's keep going. We're going to  
20 keep reading the whole thing because apparently we  
21 have to.

22 "However with class action lawsuits  
23 'judging' the scientific question  
24 of forced air safety with  
25 unsuitable, i.e. legal, means

1           subsequent studies are all the more  
2           warranted."

3           You would agree with me subsequent  
4       studies are warranted; right?

5           A.     Is that a quote from here?

6           Q.     Yeah. Are you reading along with us,  
7       because that was the whole point of me reading  
8       this? You would agree with me that the next part  
9       of this statement, the one Mr. Gordon really wanted  
10      me to read, says that more studies are warranted on  
11      this issue. Correct?

12          A.     That's a quote taken from the paper.

13          Q.     Do you agree with it or not?

14          A.     Well...

15          Q.     You cited it to me, sir. You quoted it  
16      to support your opinion on the safety of forced-air  
17      warming. So do you agree more study needs to be  
18      done?

19          A.     In science it never hurts to do more  
20      studies.

21          Q.     Yeah, and that's -- it sure doesn't. I  
22      understand that, but that's not what I'm asking  
23      you. In terms of the safety statement on  
24      forced-air warming, it's necessary to do more  
25      studies, isn't it? That's what these authors are

1 saying?

2 A. If the authors say that, who am I to  
3 argue with them?

4 Q. Sure. Okay. Let's talk a little bit  
5 about you having also a discussion, and not just  
6 papers that you think support your opinions, but  
7 you also have a discussion of scientific literature  
8 which you criticise; correct?

9 A. Yes.

10 Q. Okay. Let's look at that, and let's  
11 first go to page 17.

12 A. 17?

13 Q. Yes, sir.

14 A. All right.

15 Q. You see here there's a discussion of a  
16 paper by Mark Albrecht; correct?

17 A. Which part of the paragraph are you  
18 looking at?

19 Q. I'm looking right in the middle of the  
20 page, on the part that says "C. Research on [the]  
21 Bair Hugger and Microbes."

22 A. Under C., yes.

23 Q. Yes. It begins with a discussion of a  
24 study by Mark Albrecht?

25 A. Right.

1 Q. Okay. First of all, why did you  
2 highlight this section?

3 MR. GORDON: He didn't highlight  
4 it, counsel. Come on. This is highlighted. It  
5 says it's highlighted pursuant to the protective  
6 order. At the time --

7 MR. BANKSTON: Oh, I didn't  
8 actually see that. That's why I was asking. I  
9 didn't actually see that.

10 MR. GORDON: And -- and, by the  
11 way, that can be disregarded now because the Court  
12 has ruled that the material upon which this was  
13 based are no longer --

14 MR. BANKSTON: Are no longer.  
15 Okay. Okay.

16 Q. You cite some exhibits; right?

17 A. Right.

18 Q. Exhibit -- Albrecht Exhibit 1, Albrecht  
19 Exhibit 2, Albrecht Exhibit 3. Do you see that?

20 A. Yeah.

21 Q. Okay. Those are things that you went  
22 out and found. How did you find those?

23 A. They were provided to me.

24 Q. Okay. The materials -- I had thought --  
25 maybe I misunderstood, but I had thought that your

1 statement was "I don't like to rely on things that  
2 attorneys give me, I like to go out and do my own  
3 research?"

4 A. Right.

5 Q. Right. With respect to the studies and  
6 things that you've relied on in this case --

7 A. Right.

8 Q. -- were you provided them or did you go  
9 out and find them?

10 A. Well, when I went to look up Bair Hugger  
11 on the search engines, you can't help but have a  
12 lot of the Albrecht paper pop up.

13 Q. Okay. But not the -- these exhibits  
14 refer to his deposition; right?

15 A. Yeah.

16 Q. Okay. So we're obviously not talking  
17 about that. But what I'm talking about is all of  
18 the papers that are cited in your report --

19 A. Yeah.

20 Q. -- did you go find them or did 3M give  
21 them to you?

22 A. All of the papers cited, I found them.

23 Q. Okay.

24 A. Yeah.

25 Q. 3M didn't give you studies and say,

1 "Rely on these?"

2 A. No.

3 Q. Okay.

4 MR. GORDON: Just to be clear,  
5 you're talking about the published stuff that he  
6 lists in his references?

7 MR. BANKSTON: Sure. Exactly.

8 Q. Now, with respect to Albrecht Exhibit 1,  
9 2, and 3 --

10 A. Yeah.

11 Q. -- that was just given to you?

12 A. Well, they were given to me, but they  
13 also pop up in the literature.

14 Q. No, sir. Albrecht Exhibits 1, 2, and 3  
15 are exhibits from a deposition taken in this case.

16 A. Okay.

17 Q. Those don't pop up in literature, do  
18 they?

19 A. Okay.

20 Q. Those were selected by attorneys and  
21 given to you to rely on; correct?

22 A. Right. Right.

23 Q. Okay. The same is true of Augustine  
24 Exhibit 8; correct?

25 A. Right.



1 Q. You did not read those depositions, did  
2 you?

3 A. Why do you say that?

4 Q. Because you've told me earlier in this  
5 testimony that you haven't read any depositions,  
6 besides the couple of pages of Mr. Legg that you  
7 saw yesterday. So it's correct you have not read  
8 Mr. Albrecht's deposition and you have not read  
9 Mr. Augustine's deposition? Correct?

10 A. No.

11 Q. That's not correct? You have read those  
12 depositions?

13 A. Yeah. I read -- I read the things that  
14 were given to me.

15 Q. That's not what I'm asking you, sir.  
16 What you're citing in your report is Exhibit 1, 2,  
17 and 3 of Albrecht and Exhibit 8 of Augustine.

18 MR. GORDON: Mark, can you  
19 explain to him the difference between --

20 MR. BANKSTON: Okay.

21 MR. GORDON: -- a transcript and  
22 an exhibit?

23 BY MR. BANKSTON

24 Q. All right. Let's do it this way,  
25 because I think this is how it will explain it.

1 You see those in front of you?

2 A. Yeah.

3 Q. Those are exhibits. Right?

4 A. Yeah.

5 Q. Do you see how they say Ho 1, Ho 2,  
6 Ho 3? You've seen exhibits from a deposition?

7 A. Right.

8 Q. Labelled Augustine 8, Albrecht 1,  
9 Albrecht 2, Albrecht 3.

10 A. Right.

11 Q. Right?

12 A. Yeah.

13 Q. You understand you're giving testimony  
14 to me and this court reporter right now?

15 A. Right.

16 Q. She's writing it all down. It's on a  
17 transcript. You understand the difference between  
18 an exhibit and testimony? Do you get that now?

19 So all the things you're saying --  
20 for instance, if I took Ho 1, 2, and 3 --

21 A. Yeah.

22 Q. -- and I took them home with me and I  
23 looked at them, would I -- would I hear anything  
24 that you said? Let's look at them. Ho 3 --

25 A. Right.

1 Q. -- are your words on here?

2 A. No.

3 MR. GORDON: Mark. He saw that  
4 yesterday. So you can use that --

5 MR. BANKSTON: Right. Okay.

6 MR. GORDON: -- just to show him  
7 the difference.

8 BY MR. BANKSTON

9 Q. Okay. So, yeah. So Ho 3, your words  
10 aren't on this? Ho 2, your words aren't on this?  
11 Ho 1, your words aren't on this?

12 A. Right.

13 Q. If I just looked at these three  
14 documents, would I see anything that Dr. Ho has to  
15 think? If I just read those three documents, am  
16 I --

17 A. Right.

18 Q. -- am I getting anything that you're  
19 saying or am I getting what those documents are  
20 saying?

21 A. No.

22 Q. Right. I'm getting the documents, not  
23 your testimony; right?

24 A. Right.

25 Q. This is Mr. Legg's deposition. This is

1 the thing you read?

2 A. Right.

3 Q. Right. Or at least read parts of it?

4 A. Right.

5 Q. With respect to Mr. Albrecht and

6 Mr. Augustine -- or Dr. Augustine, you have not

7 read a transcript like that?

8 A. I don't remember reading transcripts.

9 Q. Okay.

10 A. I always thought they were just

11 published papers.

12 Q. All right. So we're not talking about

13 published papers.

14 A. Yeah.

15 Q. We're talking about deposition

16 transcripts like the one you read from Mr. Legg.

17 A. Yeah.

18 Q. That's not a published paper, is it?

19 A. No.

20 Q. Okay. So, in other words, you didn't

21 read Mr. Albrecht's testimony and decide yourself

22 "I want to use Exhibits 1, 2, and 3?" Somebody

23 told you "Here are Exhibits 1, 2, and 3, use

24 those?"

25 A. That's wrong.

1 Q. How did you come across Exhibits 1, 2,  
2 and 3 from the Albrecht deposition?

3 A. I can't tell you exactly what it was  
4 that I read, but I did read things pertaining to  
5 Albrecht.

6 Q. Okay. Where did you get those exhibits,  
7 sir?

8 A. They were given to me.

9 Q. Okay. And you were not given any  
10 testimony?

11 A. Again, I -- I -- at the time I wouldn't  
12 know what they were presented.

13 Q. The same is true with Augustine  
14 Exhibit 8? Do you know who Dr. Augustine is?

15 A. I came to know who he is --

16 Q. Okay.

17 A. -- over time.

18 Q. And he's given testimony, just like  
19 you're giving testimony today?

20 A. Yeah.

21 Q. You haven't read it?

22 A. No.

23 Q. No. Somehow you have Augustine  
24 Exhibit 8, right, because somebody told you  
25 Augustine Exhibit 8 was important? Correct?

1           A.     Well, for what I read, they were -- they  
2     were experimental reports, as far as I can  
3     remember.

4           Q.     I'm not sure that's what I asked you,  
5     sir. I said somebody gave you Augustine 8 and told  
6     you it was important. You should use it in your  
7     report.

8                   MR. GORDON:               Well, I'm going to  
9     object and say you're calling for communications  
10    between us and him.

11                  MR. BANKSTON:            Yeah. If that --

12                  MR. GORDON:            Obviously we  
13    provided those exhibits to him.

14                  MR. BANKSTON:            Hmm hmm.

15                  MR. GORDON:            But to  
16    characterize --

17           A.     Yeah, I --

18                  MR. BANKSTON:            I want to make sure.

19           Q.     It's lawyers who provided them; right?

20           A.     At the time I wasn't exactly  
21    differentiating between just technical report  
22    unpublished --

23           Q.     Okay.

24           A.     -- or something else that came through  
25    in any other direction.

1 Q. Did you have any assistance in the  
2 writing of your report?

3 A. No.

4 Q. So this section here, you wrote this?

5 A. Yeah.

6 Q. Okay. Let's talk about page 18. Do you  
7 see where the first full paragraph talks about  
8 Albrecht and his colleagues?

9 A. Right.

10 Q. Okay. You talked -- you make one point,  
11 but what I want to go to is your second point here.  
12 Do you see where you say "On their second aim..."?

13 A. Right.

14 Q. Okay. It says: "On their second aim,  
15 it would appear [that] the authors were not  
16 familiar with microbiological concepts as the  
17 experimental design had no control." Correct?

18 A. Right.

19 Q. Do you remember when we talked about the  
20 Huang study and it not having a control?

21 A. You -- you mentioned that, yes.

22 Q. Yes. And you told me that the fact that  
23 it didn't have a control doesn't mean that they  
24 weren't unfamiliar with microbiological concepts.  
25 Do you remember telling me that?

1 A. I might have said that.

2 Q. Yeah. And you're saying the exact  
3 opposite here about Mr. Albrecht, aren't you?  
4 You're saying the fact that he didn't have a  
5 control means that he's unfamiliar with biological  
6 concepts. Correct?

7 A. Yes.

8 Q. So when it comes to literature that  
9 hurts 3M's case, you make what's essentially a  
10 criticism of this author. You attack his  
11 qualifications and his credibility saying he's not  
12 familiar with microbiological concepts because he  
13 had no control. But when you had a study that was  
14 favorable to the client who has hired you, you  
15 didn't mention that it wasn't controlled, nor did  
16 you criticise those authors, did you?

17 A. No.

18 Q. And you knew when you wrote your report  
19 that Huang was not controlled?

20 A. No.

21 Q. You did know that; correct?

22 A. Well, it might have -- I might have  
23 noted that, but it wasn't something that I jumped  
24 on.

25 Q. Right. Because you're only going to



1 insult an author if he's critical of 3M, not if  
2 he's in favor of 3M; right?

3 A. Right.

4 Q. Yeah. You're not going to criticise  
5 authors that are favorable of 3M; correct?

6 A. Right.

7 Q. Understood. So you remember back when  
8 we were talking about are you writing an objective  
9 independent report or are you doing a report to  
10 advocate for 3M, this is a report which is bias in  
11 favour of 3M, isn't it?

12 A. Are you saying that?

13 Q. I'm asking you if you believe it.  
14 Considering that you criticized one author for  
15 something, told us he wasn't familiar with  
16 microbiological concepts, but knowingly didn't even  
17 include the fact that this other author had no  
18 control and didn't criticise him at all, that's a  
19 form of bias, isn't it?

20 A. No.

21 Q. You don't think that's bias?

22 A. No.

23 Q. You don't think it's a little bit unfair  
24 to insult Mr. Albrecht and accuse him of having no  
25 familiarity of microbiological concepts --

1 A. Yes.

2 Q. -- while citing Huang with approval for  
3 safety of the Bair Hugger?

4 A. Yes.

5 Q. All right. Let's talk a little bit  
6 about... Let's talk a little bit now about page 26  
7 of your report.

8 A. Yeah, I'm on 26.

9 Q. You understand during this section, in  
10 Section E., there's a discussion, and you have a  
11 list here of several published pieces of  
12 literature.

13 A. Yeah.

14 Q. It's about ten different studies; right?

15 A. Right.

16 Q. Okay. And you're critical of all of  
17 them?

18 A. I was -- I was summarizing what the  
19 review paper was -- was offering. It was -- it was  
20 more like an illustration of what a viewpoint was.

21 Q. Okay.

22 A. And those were the criticisms made on  
23 those authors and papers, and it -- that does not  
24 necessarily reflect my --

25 Q. That's not necessarily your opinion?

1 A. Yeah. They were quoted --

2 Q. Okay. Let's --

3 A. -- quoted from the paper.

4 Q. Let's go to -- I'm sorry. We started  
5 there on 25. Look on 26, okay?

6 A. I'm on 26, yeah.

7 Q. The first full paragraph --

8 A. Yeah.

9 Q. -- the last sentence. I'm sorry,  
10 second-to-last sentence.

11 A. The second-to-last sentence.

12 Q. Hmm hmm.

13 A. Yeah.

14 Q. "In my opinion..?"

15 A. Yeah.

16 Q. That means you; right?

17 A. Yeah.

18 Q. "In my opinion these papers were of  
19 uniformly low quality."

20 A. Right.

21 Q. That's your opinion?

22 A. Yeah.

23 Q. I'm going to talk about that in just a  
24 minute. Let's talk a little bit about something  
25 first. Because I want to talk about that next

1 sentence, the very following sentence to that in  
2 that paragraph. "The incidences of interest  
3 conflict were also alarming." That's your opinion?

4 A. Yes, it was my opinion.

5 Q. All right. What exactly was alarming to  
6 you?

7 A. It was the people were funded by the  
8 company.

9 Q. Was that not alarming to you in the Zink  
10 study?

11 A. Wait a minute. Wait a minute. And the  
12 results that they -- and the work they did and the  
13 results did not reflect a fair handling of the  
14 material.

15 Q. I understand that you're critical of the  
16 substance of these reports and these studies. I  
17 get that. What I'm asking you about is the  
18 statement that the incidence of interest conflict  
19 were alarming. So I want to tell you -- on these  
20 studies can you tell me what the conflict of  
21 interest was that alarmed you?

22 MR. GORDON: I object to the form  
23 of the question.

24 A. Specify them?

25 BY MR. BANKSTON

1 Q. Yeah, okay, let's go down. Okay. Let's  
2 do it that way.

3 A. Well, the --

4 Q. Mr. Albrecht's 2009 study, what was  
5 exactly alarming about that study to you --

6 A. Well --

7 Q. -- in terms of conflict of interest?

8 A. -- in each of the examples that I have  
9 cited --

10 Q. Hmm hmm?

11 A. -- the conflict of interest was pointed  
12 out by the author of the review.

13 Q. Well, we had just discussed, right, just  
14 because there's a conflict, just because a study  
15 was sponsored, that's not necessarily problematic;  
16 right?

17 A. The reviewer implied that, and I'm  
18 only -- I'm only conveying the sentiment of the  
19 reviewer of those papers.

20 Q. You said, though, "in my opinion."

21 A. Right. After I had seen that, I agree  
22 with the --

23 Q. You agree with the --

24 A. -- the author.

25 Q. -- reviewer about what? That the

1 incidences of conflict were alarming?

2 A. He brought up the conflicts. I didn't.

3 So he -- the reviewer brought it up.

4 Q. You're talking about Sikka and Prielipp  
5 in 2014?

6 A. Yeah.

7 Q. Okay.

8 A. Yeah.

9 Q. Did they call these conflicts of  
10 interest alarming?

11 A. They mentioned it.

12 Q. They mentioned that there was --

13 A. They mentioned there were --

14 Q. -- conflicts; right?

15 A. -- conflicts of interest.

16 Q. You called them alarming; right?

17 A. Well, yes.

18 Q. Why are they alarming, sir? I don't  
19 understand. Can you -- you remember we had a  
20 discussion, and it was if you sponsor a paper, it  
21 may not necessarily be bad, but there are certain  
22 things you can do: collaborating to put a positive  
23 spin on a bad result or offering somebody your  
24 manuscript to change it. Those could be seriously  
25 alarming.

1                   But what was it about these studies  
2   that was alarming to you in the conflict of  
3   interest? Is there anything in particular or are  
4   you just saying that "Well, they were sponsored so  
5   you can't really trust them?"

6           A.    The papers did not reveal anything  
7   useful for the -- for the reader.

8           Q.    That seems to be a criticism of their  
9   content; right? You have criticisms that the  
10   content wasn't very good?

11          A.    Yeah.

12          Q.    What about their conflict of interest?  
13   What about that was alarming? You called these  
14   studies alarming. And that's a large group of  
15   authors that you have said have presented finding  
16   which are alarming, and I want to know if you have  
17   anything specific whatsoever beyond the fact that  
18   some of these studies were funded by different  
19   groups and that some people used to work for  
20   somebody. Is there anything specific other than  
21   they were sponsored?

22          A.    Well, let me put it this way. I was  
23   expecting them to have come up with better studies,  
24   if they were more convincing studies. And so it's  
25   alarming that even though they were funded, they

1 still came up with such poor representations of  
2 what they were doing.

3 Q. All right. Let's just make it real  
4 clear. Your criticisms of these reports are about  
5 their content? It's not about any conflicts.  
6 There's not anything -- can you point to me  
7 anything unethical going on with these papers at  
8 all?

9 A. I -- not -- I'm not able to comment on  
10 ethics in this case.

11 Q. Okay. Okay. So this whole part about  
12 the incidence of interest conflict being  
13 alarming --

14 A. Yeah.

15 Q. -- no specific evidence? Nothing in  
16 particular? Correct?

17 A. Yeah.

18 Q. Okay. All right, sir. I am going to --  
19 I hate to have to do this. We're going to have to  
20 mark these because I don't have exhibit numbers.  
21 Let's call this Ho 4.

22 **EXHIBIT H0 4 - Email chain dated**

23 **January 24, 2007**

24 **BY MR. BANKSTON**

25 Q. You know that the makers of the



1 Bair Hugger, Arizant, they sponsor studies from  
2 time to time? You knew that?

3 A. If they have, I wasn't aware of them and  
4 I wasn't looking for them.

5 Q. The sponsorship of studies is discussed  
6 in Dr. Yadin David's report, isn't it?

7 A. I don't remember the exact samples.

8 Q. Okay. Let me hand you what I've marked  
9 as Ho 4. This is a 2007 email. And let's read it  
10 together from the bottom because that's how it  
11 goes.

12 A. 2007 you mean?

13 Q. 2007. Correct, sir.

14 A. Yeah. Yeah.

15 Q. So we're going to read it from the  
16 bottom. So that's how the order goes.

17 A. Right.

18 Q. And you see we have an email, and the  
19 signature line tells us it is Albert Van Duren,  
20 Director of Clinical Affairs, Arizant Healthcare  
21 Incorporated.

22 A. Right.

23 Q. Have you heard of Mr. Van Duren before?

24 A. No.

25 Q. Okay. You haven't spoken to him or

1 anything like that?

2 A. No.

3 Q. Okay. You haven't seen his deposition  
4 either?

5 A. No.

6 Q. Okay. Mr. Van Duren is communicating  
7 with a man named Daniel Sessler. And that was an  
8 author that I had discussed earlier, but you  
9 haven't reviewed any of his work in this case;  
10 correct?

11 A. If you say so.

12 Q. No, if you say so. Have you reviewed  
13 Dr. Sessler, any of his work, Dr. Daniel Sessler?

14 A. Well, are you asking me because you know  
15 there are, so...

16 Q. I mean, I don't think you have. But if  
17 you have -- I mean, you've told me some things that  
18 aren't 100 percent listed in your report.

19 A. Okay.

20 Q. And since Dr. Legg's testimony is not in  
21 your report, so I didn't know if you had --

22 A. No. He's not listed --

23 Q. Okay.

24 A. -- as a paper I saw.

25 Q. Okay. I want to read what Mr. Van Duren

1       says.

2           A.     All right.

3           Q.     It says:

4                 "Good morning, Dan,

5                         Thanks for your cooperation.

6                         Just to be clear, I understand that  
7                         you will not submit this paper for  
8                         publication until we have had time  
9                         to study it further. If you are  
10                        under any specific time pressure,  
11                        would you please let me know. We  
12                        are actively working on a reply  
13                        now, but I would like some more  
14                        time to develop our response.

15                        Thanks, Al."

16                        The next email, from Dr. Sessler, the  
17       researcher who has been engaged by the company --

18           A.     Right.

19           Q.     -- says:

20                 "Hi Al,

21                         Understood! We regard this as  
22                         a collaborative effort to put the  
23                         best face on a disappointing  
24                         clinical result. Rather than a  
25                         'response,' you can make

1 suggestions and necessary changes  
2 right in the text of the  
3 manuscript. Change tracking is  
4 activated so we'll be able to see  
5 what you've done.

6 Regards, Dan."

7 Did I read that; correctly?

8 A. Yeah.

9 Q. Do you remember when we were talking  
10 earlier about there could be problems if a sponsor  
11 and an author collaborated to put a positive spin  
12 on what they knew was a disappointing clinical  
13 result? Do you remember testifying to that?

14 A. Hmm hmm.

15 Q. So you --

16 MR. ASSAAD: Is that a yes?

17 BY MR. BANKSTON

18 Q. Is that a yes?

19 A. Yes.

20 Q. Okay. So you would agree with me that  
21 in this email that we're seeing about how Arizant  
22 conducts its business with respect to a study  
23 author, that's a problem? That's not good? You  
24 would agree with me?

25 A. Well...

1 Q. That's alarming.

2 A. I cannot comment on just one short  
3 communication. There might have been other things  
4 that were said.

5 Q. Absolutely. That's a really good point.

6 A. Yeah.

7 MR. BANKSTON: Let's mark Ho 5.

8 **EXHIBIT HO 5 - Email chain between**  
9 **January 12, 2007, and January 24,**  
10 **2007**

11 BY MR. BANKSTON

12 Q. I want to show you some additional  
13 communication, and we'll read it out together.  
14 We'll go straight from the bottom again.

15 A. Is this after this first email?

16 Q. No, let's see. Check the time.

17 A. January 24th and this is 1st, 24th.

18 Q. And then there's apparently a message  
19 here from the 12th. It's around the same period,  
20 in other words, you would agree?

21 A. Okay. Well, which one precedes which?

22 Q. You can see that from the time. I think  
23 there's actually a little bit of conflict between  
24 them because I think the exhibit you're looking at  
25 now, which is Ho 5, begins on January 12th and ends

1 on January 24th, but the other email you're looking  
2 at is also January 24th. So they're in and about  
3 the same time.

4 A. Okay. So this must have come first.

5 Q. Well, at least the first message there.

6 A. Right.

7 Q. It may be a little difficult to tell if  
8 the later message is on the 24th --

9 A. Okay.

10 Q. -- given where people may be in the  
11 country and time zones. I'm not going to  
12 definitively represent any of that.

13 A. Go ahead.

14 Q. But in terms of that, this is the first  
15 initiating email.

16 A. Right.

17 Q. Dr. Sessler writes to Mr. Van Duren and  
18 says:

19 "Hi Al,

20 I hope you enjoyed the holidays.

21 Best wishes for the New Year!

22 Please find enclosed a draft of the

23 Under-body manuscript. I look

24 forward to your comments and

25 suggestions. Change tracking is

1           activated so you can make  
2           modifications directly in the text.  
3           We also plan to present the  
4           enclosed poster at the IARS.  
5           Regards, Dan."

6           The next message is from Mr. Van Duren,  
7   forwarding it on to other employees, saying:

8           "Gary,  
9           Gary and Teri asked me to send this  
10          to you for review. The CRT will  
11          meet on Tuesday morning to develop  
12          a response strategy."

13          The final email is from Mr. Hansen, and  
14   it is addressed to several members of the company.  
15   And it states "Subject: Another Approach with  
16   Sessler." He states:

17          "Al,  
18          I was just rereading the email  
19          chain and noticed Sessler's  
20          original message to you. He is  
21          actually giving us permission to  
22          word-smith his text. This may be  
23          the best approach [to take]: take  
24          him at his word and go after the  
25          offending parts directly. And

1 don't be shy about major changes.

2 This would be a good way to get our  
3 point across, and he did invite us  
4 to do it. I have made a modest  
5 attempt here. Have at it!"

6 That is an incredibly problematic,  
7 alarming email, isn't it, sir?

8 MR. GORDON: Objection to the  
9 form of the question, lack of foundation.

10 A. Well, you're taking -- you're putting me  
11 into a -- into a situation that I'm not familiar  
12 with, and I have no familiarity of the work done or  
13 the context of the material. So, again, it's not  
14 fair for me to judge, make --

15 BY MR. BANKSTON

16 Q. So you can -- you are saying to me you  
17 can imagine scenarios in which it's totally  
18 appropriate for a sponsor of a peer-reviewed  
19 scientific paper to take the manuscript from the  
20 author and go after offending parts and just change  
21 the text? That's okay?

22 MR. GORDON: I object to the --

23 BY MR. BANKSTON

24 Q. That can be okay?

25 MR. GORDON: I object to the form



1 of the question, it assumes facts not in evidence.

2 BY MR. BANKSTON

3 Q. Is there any circumstance where that's  
4 okay?

5 A. I don't really know if this actually  
6 applies to -- to discussions at hand.

7 Q. You don't?

8 A. No.

9 Q. Okay.

10 A. Yeah.

11 Q. So you don't know anything about the  
12 conflicts of interest on the nine, ten papers  
13 you're criticizing in your report, but I can show  
14 you two different emails showing you that Arizant  
15 is willing to rewrite and directly edit the  
16 manuscript of a peer-reviewed paper, and you don't  
17 have any problem with that?

18 MR. GORDON: I object to the form  
19 of the question, argumentative --

20 A. No.

21 MR. GORDON: -- assumes facts not  
22 in evidence, lack of foundation.

23 A. Way outside of my area of understanding  
24 here.

25 BY MR. BANKSTON

1 Q. That is too bad. Let's talk about...  
2 You don't mention any of the conflicts of interest  
3 in any of the papers that you cite; correct?

4 A. Pardon?

5 Q. Of all the papers that you cite in  
6 support of your opinions --

7 A. Right.

8 Q. -- you don't cite a single one of the  
9 conflicts of interest? You don't even mention  
10 them?

11 A. Yeah. I didn't mention it because it  
12 was mentioned in the review itself. And so I'm  
13 just --

14 Q. So you're just repeating --

15 A. -- summarizing the review.

16 Q. That's not opinions? That's just  
17 somebody else's opinion?

18 A. Yeah. As I've said, I have very little  
19 to do with the players.

20 Q. Let's talk about where you said -- hold  
21 on. No, let's do a little bit of this first.  
22 Page 26 of your report.

23 A. I'm there.

24 Q. Okay. The second full paragraph.

25 A. Yeah.

1           Q.    It says: "It can be assumed that in the  
2    OR, the nurse is responsible for implementing the  
3    Bair Hugger." Why do you assume that? How did you  
4    come to that assumption?

5           A.    Well, okay, this is pure speculation on  
6    my part.

7           Q.    Okay.

8           A.    No basis of fact for it.

9           Q.    Okay.

10          A.    I would assume that the surgeon will  
11   be -- will be more interested in the actual  
12   operation at hand and the deployment or the  
13   implication of the Bair Hugger would not be of his  
14   prime interest of concern and it would usually be  
15   of somebody else who is more patient comfort  
16   oriented.

17          Q.    Okay. And so when you say that nurses  
18   are responsible for implementing the Bair Hugger,  
19   that wasn't based on any knowledge about how this  
20   all goes down; right?

21          A.    Well, only because of the -- of the  
22   paper that was written by the nurse, who sounded  
23   like she had some authority over this whole --  
24   whole matter.

25          Q.    So you didn't know that the

1 anesthesiologist is the one who has authority over  
2 the Bair Hugger and implements its use?

3 MR. GORDON: I object to the form  
4 of the question, lack of foundation, assumes facts  
5 not in evidence.

6 A. I wouldn't know that.

7 BY MR. BANKSTON

8 Q. Okay. Part of -- as you go on here you  
9 say that "... the literature on its use..." the  
10 literature on the Bair Hugger's use, "...is written  
11 mostly by personnel who appear to have little to no  
12 real day to day contact with the device." Correct?

13 What authors are you talking about  
14 there? Are you talking about the ones in this list  
15 you have here?

16 MR. ASSAAD: Is that a yes?

17 BY MR. BANKSTON

18 Q. Is that a yes?

19 A. Yes.

20 Q. All right. Let's talk about those  
21 doctors in that list. You read Dr. Legg's  
22 deposition, or a part of it; right?

23 A. Yeah.

24 Q. Do you know what he does?

25 A. What?

1 Q. Do you know what he does?

2 A. No.

3 Q. You don't know what his job is?

4 A. No.

5 Q. You just read some deposition testimony  
6 in isolation, but you don't have any idea what he  
7 does?

8 A. No.

9 Q. So you don't know he's an orthopedic  
10 surgeon who uses the Bair Hugger almost every day?

11 A. You tell me.

12 Q. I am telling you.

13 A. Yeah.

14 Q. Did you know who Dr. Hamer is when you  
15 started to say about -- talking about Dr. Hamer's  
16 study? Do you know who Dr. Hamer is?

17 A. No.

18 Q. Do you know what he does?

19 A. No.

20 Q. An orthopedic surgeon. Orthopedic  
21 surgeons typically have some day-to-day  
22 interactions with the Bair Hugger, don't they?

23 A. Well, you're telling me. I don't know  
24 that.

25 Q. All right. Well, you're the one who

1 told me that these personnel have little day-to-day  
2 contact with the device.

3 A. I'm just making that assumption.

4 Q. That's a big assumption, isn't it, sir?  
5 Let's keep going on these authors. Dr. Reed. He's  
6 an orthopedic surgeon; right? Did you know that?

7 A. No.

8 Q. Did you know that Dr. Belani was an  
9 anesthesiologist?

10 A. No.

11 Q. Did you know that Dr. Gauthier  
12 (phonetic) was an anesthesiologist?

13 A. No.

14 Q. Are you familiar with who Dr. David  
15 Lieber (phonetic) is?

16 A. No.

17 Q. He's an orthopedic surgeon. He's rather  
18 well known.

19 Mr. Albrecht --

20 MR. GORDON: I object to the form  
21 of the question.

22 BY MR. BANKSTON

23 Q. -- you understand --

24 MR. GORDON: Move to strike  
25 counsel's commentary.

1 BY MR. BANKSTON

2 Q. Mr. Albrecht, he's a statistician, but  
3 he helped create the Bair Hugger. You would agree  
4 he probably had some day-to-day interactions with  
5 the Bair Hugger; right?

6 MR. GORDON: I object to the form  
7 of the question, lack of foundation.

8 BY MR. BANKSTON

9 Q. The person who helped create the  
10 Bair Hugger probably had some day-to-day  
11 interaction with the Bair Hugger?

12 A. I didn't know he created it.

13 Q. Yeah, I know. Let's go to --

14 MR. GORDON: I object to the form  
15 of the question --

16 BY MR. BANKSTON

17 Q. -- Dr. McGovern.

18 MR. GORDON: -- argumentative.  
19 It's actually snotty, and I move to --

20 MR. BANKSTON: No. What's snotty  
21 is an expert who comes in here and tells me what  
22 literature was written by a person and he doesn't  
23 know what he's talking about.

24 MR. GORDON: Move to strike  
25 counsel's commentary and --

1 MR. BANKSTON: It's disgusting.

2 BY MR. BANKSTON

3 Q. Dr. Harper, do you know what he does?

4 MR. GORDON: You know what? Wait  
5 a minute. Wait a minute. Mark, if you're going  
6 to --

7 MR. BANKSTON: This is totally  
8 disgusting.

9 MR. GORDON: -- if you're going  
10 to talk about our witnesses being disgusting, this  
11 deposition is over.

12 MR. BANKSTON: All right. I won't  
13 do that anymore.

14 MR. GORDON: This is not Texas,  
15 sir. This is -- this is being conducted in the  
16 District --

17 MR. BANKSTON: Definitely not.

18 MR. GORDON: It's being conducted  
19 in the District of Minnesota. We don't -- we don't  
20 insult witnesses in the District of Minnesota.

21 MR. BANKSTON: Okay.

22 MR. GORDON: And if you do it one  
23 more time, this deposition is over.

24 MR. BANKSTON: Okay.

25 Q. Dr. McGovern, do you know what he does?



1 You wrote -- you wrote about the doc -- about --

2 A. Yeah. Yeah.

3 Q. -- Dr. McGovern's study; right?

4 A. Right. Right. Right. Right.

5 Q. Do you remember what McGovern -- first  
6 of all, do you remember what the McGovern study was  
7 about?

8 A. Well, he was a -- a British doctor --

9 Q. Hmm hmm.

10 A. -- who report -- reported on using the  
11 Bair Hugger.

12 Q. Do you know what kind of doctor he is?

13 A. No.

14 Q. Okay. He's an orthopedic surgeon. And,  
15 in fact, his study was a retrospective clinical  
16 analysis of the use of the Bair Hugger in his own  
17 facility. Do you remember that study, the McGovern  
18 study?

19 MR. GORDON: I object to the form  
20 of the question, move to strike counsel's --

21 A. I read the study.

22 BY MR. BANKSTON

23 Q. Okay.

24 MR. GORDON: -- characterization.

25 BY MR. BANKSTON

1 Q. Mr. Harper, Dr. Harper, he's an  
2 anesthesiologist who uses the Bair Hugger.

3 A. Right.

4 Q. Did you know that?

5 A. No.

6 Q. Dr. Kimberger, that's an  
7 anesthesiologist who also uses the Bair Hugger.  
8 Did you know that?

9 A. Well, how do you know that?

10 Q. Because I opened the study and it has  
11 their names on it and it has what they do. Do you  
12 see here, for instance --

13 A. Whoa, whoa, whoa.

14 Q. And I'll just show you. This is  
15 scientific studies. This is the Darouiche study;  
16 right?

17 A. Time out. Time out.

18 Q. I'm asking you a question, sir.

19 A. Time out.

20 Q. Okay. Let's do a time out.

21 A. When people put names on paper --

22 Q. Hmm hmm.

23 A. -- you are implying that they actually  
24 put the Bair Hugger on the patient?

25 Q. Yeah. Yeah, these gentlemen do.

1 They're practising orthopedic surgeons. Yes, sir,  
2 that's what I'm saying. And if you'll notice here  
3 on this paper, in Darouiche, at the bottom, see how  
4 each author has a point here and it says exactly  
5 what they do.

6 A. Is that the only thing you go by?

7 Q. I'm sorry, I don't --

8 A. You actually spoke to the person?

9 Q. No, sir. I actually had these people  
10 appear for deposition. And we read their  
11 deposition testimony. And that's something you  
12 didn't do; correct?

13 A. Well, did they actually say they draped  
14 the Bair Hugger over the patient?

15 Q. Sir, did you read the deposition  
16 testimony?

17 A. No.

18 Q. You don't know, do you?

19 A. No.

20 MR. GORDON: Apparently you  
21 didn't either, counsel.

22 BY MR. BANKSTON

23 Q. All right.

24 A. Well, I find it incredulous that you  
25 just make the assumption that because his name

1 appears on the paper that he actually draped the  
2 Bair Hugger over the patient.

3 Q. No. All I'm saying is he has day-to-day  
4 contact with the device.

5 A. So?

6 Q. The orthopedic surgeon has day-to-day  
7 contact with the device; right?

8 A. So? I got --

9 Q. You said, sir, let's go back --

10 A. When I went in an operation, the  
11 anesthetic person came and talked to me and used  
12 the usual "How are you doing? Fine," and then he  
13 walked away. I didn't see anybody drape anything  
14 over me when I had an operation.

15 Q. All right. You will agree with me that  
16 every single one of those people that I've just  
17 listed has had some day-to-day contact with the  
18 device?

19 A. Contact, okay.

20 Q. You said in your report --

21 A. I cannot say -- I cannot even agree with  
22 that.

23 Q. Okay.

24 A. Because I -- I -- I would like to think  
25 that if my job was to administer anesthetics, by

1 golly, I better make sure that all the volumetrics  
2 are right, all the sensors are correct.

3 Q. Do you know where the Bair Hugger is  
4 placed in the OR?

5 A. Well, I get -- I have some impression.

6 Q. Where is the Bair Hugger?

7 A. Well, it's placed on -- or close to the  
8 patient.

9 Q. Right. Near the anesthesiologist;  
10 right?

11 A. Say again?

12 Q. Near the anesthesiologist?

13 MR. GORDON: I object, lack of  
14 foundation.

15 A. Probably, yeah.

16 BY MR. BANKSTON

17 Q. Okay.

18 A. Yeah.

19 Q. So page 26, you state that the  
20 literature on the Bair Hugger's use "...is written  
21 mostly by personnel who appear to have little to no  
22 real day to day contact with the device."

23 A. Yeah.

24 Q. You have zero basis to say that?

25 A. I -- I only went along with what the

1 author, who explained how the Bair Hugger is used  
2 in the hospital.

3 Q. Okay.

4 A. This lady is a nurse.

5 Q. Okay.

6 A. And her -- and her credibility, from my  
7 reading, was pretty good.

8 Q. Okay. So you think it's refreshing to  
9 come across a paper written by a nurse --

10 A. Yeah.

11 Q. -- as opposed to these orthopedic  
12 surgeons and anesthesiologists who are publishing  
13 peer-reviewed papers?

14 A. Right.

15 Q. You would rather go with a literature  
16 review by a nurse than the actual primary papers --

17 MR. GORDON: I object --

18 BY MR. BANKSTON

19 Q. -- themselves?

20 MR. GORDON: I object to the form  
21 of the question, argumentative, it assumes facts  
22 not in evidence.

23 A. Is that a question?

24 BY MR. BANKSTON

25 Q. It was. Hmm hmm.

1 A. What was it?

2 Q. You would rather go by a literature  
3 review written by a nurse than primary published  
4 peer-reviewed research by orthopedic surgeons and  
5 anesthesiologists?

6 A. I find it useful to read from all  
7 directions, and nurses is one direction that I find  
8 useful.

9 Q. Okay. You said also in your opinion  
10 these papers were of uniformly low quality?

11 A. Right.

12 Q. Okay. Let's talk first about  
13 Dr. McGovern's study. Okay? Dr. McGovern had a  
14 study, statistical analysis of clinical outcomes of  
15 orthopedic surgeries in a clinical setting.

16 A. Hmm hmm.

17 Q. Do you have any expertise in those  
18 areas?

19 A. Say again.

20 Q. Do you have any expertise in these  
21 areas?

22 A. Me?

23 Q. Yeah.

24 A. You know that I don't have it.

25 Q. I'm then wondering why you think you

1 have expertise to evaluate whether that study was  
2 low or high quality if you have never had any  
3 expertise in performing that kind of study.

4 A. Okay.

5 MR. GORDON: Objection. I object  
6 to the form of the question, lack of foundation,  
7 argumentative, also assumes facts not in evidence.  
8 There were two parts to that study; as you know,  
9 counsel.

10 MR. BANKSTON: Hmm hmm. And he  
11 says it's uniformly --

12 A. Yeah.

13 MR. BANKSTON: -- low quality.

14 A. Are you looking for a response from me?

15 BY MR. BANKSTON

16 Q. Hmm hmm.

17 A. Okay. One of the -- in one of the  
18 figures, I don't have it in front of me, he  
19 specifically drew a straight line as through the  
20 number of, I guess, infections using the  
21 Bair Hugger. Do you follow?

22 Q. Not really, but that's okay.

23 A. Well, I can't explain anything else to  
24 you if you don't --

25 Q. I know you're talking about a straight



1 line --

2 A. -- if you never read the paper.

3 Q. -- in his report.

4 A. Have you read the paper?

5 Q. Of course I have, sir.

6 A. Okay. So imagine it was one of the  
7 figures --

8 Q. Okay.

9 A. -- that described the use of the  
10 Bair Hugger, and then he switched over to another  
11 device.

12 Q. Hmm hmm.

13 A. Got it? So here -- here is my immediate  
14 skeptical self asking the question in what  
15 biological measurement do you ever see  
16 straight-line responses.

17 Q. You understand that that straight line  
18 is an average? It's not the actual data, it's an  
19 average plot --

20 A. Uh-huh.

21 Q. -- that was created into a straight  
22 line?

23 A. I'm glad you mentioned that.

24 Q. Hmm hmm.

25 A. When you start to use data transformed,

1     you are in very shaky ground.

2             Q.     Okay.

3             A.     Data transform.

4             Q.     Let's --

5             A.     And when you put a straight line within  
6     a particular time period, am I to believe that you  
7     are actually shaping the data in a way that it  
8     actually shows what you want to show?

9             Q.     Object as non --

10            A.     Answer me that question.

11            Q.     I don't answer questions, sir. You  
12     answer questions.

13            A.     Exactly.

14            Q.     Object as nonresponsive.

15                    My question had nothing to do with  
16     what your criticisms of the report were.

17            A.     You did say that.

18            Q.     That was not my question. My question  
19     is what expertise do you have, what expertise --

20            A.     My --

21            Q.     -- do you have to offer --

22            A.     -- expertise --

23            Q.     Sir, I have to finish the question.

24            A.     Yeah.

25            Q.     You can't start answering until I finish

1 the question.

2 What expertise do you have in the  
3 field of retrospective clinical analysis of  
4 clinical outcomes to be able to criticise how this  
5 paper was conducted and reported?

6 A. Are you looking for an answer?

7 Q. After I finish my question. Yeah, of  
8 course.

9 A. Yeah. So my response to you again is  
10 the same thing. You actually measure a biological  
11 phenomenon, which is what it is in this case. When  
12 you show me a straight-line relationship, feathers  
13 would fly.

14 Q. Okay. I understand you have criticisms  
15 of the report.

16 A. Yeah.

17 Q. You have several probably substantive  
18 criticisms of the content of the report.

19 A. Right.

20 Q. I understand you could probably talk for  
21 hours about your criticisms of that report.

22 A. Right.

23 Q. What I want to know is not what your  
24 criticisms are.

25 A. Right.

1 Q. I want to know what in your background  
2 before you ever came to this case --

3 A. Right.

4 Q. -- made you qualify --

5 A. Yeah.

6 Q. -- to criticise a retrospective clinical  
7 outcome study.

8 A. As I've said before, I've mentioned to  
9 you that I have experience in biological  
10 measurements and responses.

11 Q. There is no biological measurements in  
12 this study, is there?

13 MR. GORDON: I object to the form  
14 of the question.

15 A. You're measuring infectivity, aren't  
16 you?

17 BY MR. BANKSTON

18 Q. Clinical outcomes is what we're  
19 measuring.

20 A. Infectivity, clinical outcome. Are you  
21 infected, are you not.

22 Q. You're not an expert in infectious  
23 disease?

24 A. No, but you're measuring a biological  
25 phenomenon.

1 Q. Okay. So you're pretty much okay on all  
2 biological phenomena?

3 A. Well, there are certain --

4 MR. GORDON: I object to the form  
5 of the question.

6 A. -- basic principles in biological  
7 measurement, is that nothing is a straight line.  
8 Take that with you.

9 BY MR. BANKSTON

10 Q. Okay. So that is why -- that's the  
11 basis for your opinion that the McGovern paper is  
12 uniformly --

13 A. Yeah.

14 Q. -- low quality, is it contains a  
15 straight line?

16 A. Check it out. Check it out.

17 Q. That's -- no. I'm asking --

18 A. Ask the man.

19 Q. I'm not asking to check it out. I'm  
20 asking --

21 A. Yeah.

22 Q. -- your basis for saying --

23 A. Yeah.

24 Q. -- the McGovern paper --

25 A. Yeah.

1 Q. -- is uniformly low quality --

2 A. Yeah.

3 Q. -- has a straight line in it?

4 A. Exactly.

5 Q. Thank you, sir.

6 MR. GORDON: I object to the form  
7 of the question.

8 A. And come back to me in five years.

9 BY MR. BANKSTON

10 Q. You have no clinical background;  
11 correct? Correct?

12 A. I have no --

13 Q. Have you ever diagnosed a disease?

14 A. Never. I never had to.

15 Q. Have you ever performed any kind of  
16 hazard analysis for a clinical setting?

17 A. No.

18 MR. GORDON: I object to the form  
19 of the question.

20 BY MR. BANKSTON

21 Q. Let's talk about page 21.

22 Do you see on 21 you have a  
23 Section IV? It's titled "Observations on  
24 Plaintiffs' Experts' Reports?"

25 A. Yeah.

1 Q. Now, this is the part of your report  
2 devoted to contradicting or rebutting or addressing  
3 the subjects identified in some of the plaintiffs'  
4 experts' reports that you reviewed?

5 A. Right.

6 Q. Correct?

7 A. Right.

8 Q. All right. So, in other words, as  
9 opposed to like the earlier part of your report, is  
10 Dr. Ho's opinions across the board, this part is  
11 directly addressing certain findings that you want  
12 to take issue with with the plaintiff?

13 A. Right.

14 Q. Okay. So this is the rebuttal section?

15 A. Right.

16 Q. Okay. Let's talk about Mr. Buck first.  
17 I want to ask you a little bit about this first  
18 part here, about his use of a certain kind of a  
19 particle counter?

20 A. Right.

21 Q. And you say that that particle counter  
22 measures .3 to 1.2 microns. Is that what that  
23 does?

24 A. That's what the author claims.

25 Q. Okay. So you state on page 5 of his

1 report, he has a -- and I'm going to show you this  
2 report. He has a description of bacterial sizes?  
3 Do you see right here, sir? That's Mr. Buck's  
4 report?

5 MR. ASSAAD: Do you want to mark  
6 it?

7 A. So, so --

8 MR. BANKSTON: Yeah, let's go ahead  
9 and mark that. Actually if you want to do that  
10 real quick.

11 A. What about it?

12 MR. BANKSTON: Hold on one second.

13 A. Yeah.

14 MR. BANKSTON: Can you mark that  
15 Exhibit Ho 6.

16 **EXHIBIT H0 6 - Expert report of**  
17 **Michael W. Buck**

18 **BY MR. BANKSTON**

19 Q. All right. So here we have where he has  
20 the bacteria chart?

21 A. Right.

22 Q. And at the top of the page he says  
23 something about .3 to 1.2 microns; right? What is  
24 that -- what is that reference to .3 to  
25 1.2 microns? What is that? What does he say? The



1 very top of that page. Can you read it for me?

2 A. Yeah. It says: "...the vast majority  
3 of bacteria range in size from .3 to 1.2 microns."

4 Q. Okay.

5 A. Yeah.

6 Q. And that's -- he's talking about  
7 individual bacterium; correct?

8 A. Right.

9 Q. He's not talking about clusters?

10 A. No.

11 Q. Okay. So then he did some particle  
12 measurements; right?

13 A. Right.

14 Q. Is it your contention that his particle  
15 measurements were only .3 to 1.2? Is that what  
16 you're saying?

17 A. No. I think he had a whole size range  
18 that his machine was indicating.

19 Q. Right. Well, what I don't understand is  
20 it says in your report --

21 A. Yeah.

22 Q. -- ".3 to 1.2 micron is not the relevant  
23 size range for detecting airborne viable bacteria;"  
24 correct?

25 A. Yeah, I said that. Yeah.

1 Q. Okay.

2 A. Yeah.

3 Q. But he did do detection of particles  
4 over that size; correct?

5 A. Yeah.

6 Q. Okay. Let's talk about  
7 Mr. Koenigshofer. Do you remember -- and that's on  
8 the next page of your report.

9 A. Are you done with this?

10 Q. Yeah, sure. Mr. Koenigshofer, you  
11 disagree with his opinion that the Bair Hugger  
12 contributes 30,000 CFUs per hour; right?

13 A. Yeah. Yeah. Yeah. Yeah.

14 Q. Okay. That's something -- you can test  
15 that, can't you?

16 A. What do you mean?

17 Q. That's testable? That proposition is  
18 testable?

19 A. You want to test what again?

20 Q. Mr. Koenigshofer's opinion --

21 A. Yeah.

22 Q. -- that the Bair Hugger contributes  
23 30,000 CFUs per hour. Can you test that?

24 A. Yeah. You're asking me if I can test  
25 it?

1 Q. Or if one could test it? If a human  
2 being or a team of human beings are capable of  
3 testing that.

4 A. One could set up a measurement system to  
5 do that, yes.

6 Q. Okay. Another opinion that you disagree  
7 with is his opinion that the Bair Hugger filter  
8 performance was inadequate with respect to that of  
9 the OR. You disagreed with that opinion; correct?

10 A. He said that.

11 Q. Excuse me?

12 A. He said that.

13 Q. Right.

14 A. Yeah.

15 Q. You disagree with his opinion that the  
16 Bair Hugger filter performance was inadequate with  
17 respect to the OR?

18 A. Right. Yeah.

19 Q. Okay.

20 A. Yeah.

21 Q. And you base that on your assessment of  
22 the MERV 14 filter; correct?

23 A. It's based on my reading the  
24 specifications of what a MERV 14 filter should be  
25 doing.

1 Q. Right.

2 A. Yeah.

3 Q. And when we looked earlier at the test  
4 results, it wasn't doing that, was it?

5 MR. GORDON: I object to the form  
6 of the question. It mischaracterizes his evidence.

7 BY MR. BANKSTON

8 Q. Okay. You remember we -- let's start  
9 really basic so we cannot mischaracterize evidence.  
10 Do you remember testifying to me that a MERV 14  
11 filter is capable of removing all particles between  
12 .3 and 1 microns?

13 MR. GORDON: Objection.

14 BY MR. BANKSTON

15 Q. You testified to that?

16 MR. GORDON: Objection, it  
17 mischaracterizes his evidence.

18 BY MR. BANKSTON

19 Q. Sorry, sir, I have to clear up this  
20 objection.

21 All right. Sir, can you please go  
22 back with me to page 25 of your report.

23 A. 25?

24 Q. Are you there?

25 A. Yeah.

1 Q. All right. Do you remember where we  
2 talked about MERV 14 filtration, Section D.?

3 A. Right.

4 Q. All right. Do you remember where it has  
5 a standard charts, list the specification for  
6 MERV 14?

7 A. Yeah.

8 Q. Do you remember that?

9 A. Yeah.

10 Q. And do you remember where it says  
11 removal of all bacterial particles sized within .3  
12 to 1 micron; correct?

13 A. Right.

14 Q. And you remember we looked at some  
15 filter results? Do you remember when I showed  
16 you -- the first exhibit I showed you today?

17 A. Yeah.

18 Q. And do you remember it didn't filter  
19 out, it did not stop all of those particles;  
20 correct?

21 A. Does -- does the data that you offered  
22 me use bacterial aerosol challenge? Aha.

23 Q. Is that -- is that your testimony? You  
24 keep forgetting you don't ask questions here, you  
25 just tell me what your opinions are.

1                           You admitted to me earlier --

2           A.     Yeah.

3           Q.     -- that that Bair Hugger filter does not  
4 match the specifications you put forth here in your  
5 report.   Correct?

6           A.     Well, are you talking about biological  
7 particles or all particles?

8           Q.     Removal of all bacterial particles sized  
9 within .3 to 1 micron.

10          A.     And the 3M paper that you cited --

11          Q.     Hmm hmm.

12          A.     -- were they using biological bacterial  
13 particles?

14          Q.     You tell me.   Do you know?   Do you have  
15 any idea?

16          A.     My guess -- if I'm allowed to.

17          Q.     I don't -- I mean, you can guess --

18          A.     Yeah.

19          Q.     -- but I don't know what it's worth.

20          A.     I don't think they were using bacterial  
21 particles.

22          Q.     You have no idea, though?   You're just  
23 guessing?

24          A.     Yeah.

25          Q.     Okay.   So it could have tested it, it

1 could have tested it, but we're just guessing  
2 instead?

3 A. Well, you have to compare apples to  
4 apples.

5 Q. I agree. By testing them?

6 A. Yeah.

7 Q. Right. Okay. You also disagree with  
8 Mr. Koenigshofer's opinion that the hot air from  
9 the Bair Hugger will interfere with the downward  
10 flow of clean air from the ceiling diffuser. You  
11 said that?

12 A. I said that.

13 MR. BANKSTON: Corey, can I get  
14 that same stipulation? He's not here to talk about  
15 that, right, the interference of laminar flow?

16 MR. GORDON: Correct.

17 MR. BANKSTON: Correct. Okay. So  
18 that's not going to be an opinion at trial?

19 MR. GORDON: Correct.

20 MR. BANKSTON: Okay. That saves us  
21 a little bit, Corey. All right. We've talked  
22 about that.

23 BY MR. BANKSTON

24 Q. Okay. Let's talk about Dr. David,  
25 Dr. Yadin David. One of his opinions was that the

1 interior of the Bair Hugger could harbor bacteria  
2 or it could introduce bacteria to the flow of the  
3 air. You disagree with that opinion?

4 A. I do.

5 Q. I believe is it -- tell me if this is  
6 your opinion or not. You believe that the interior  
7 of the machine, that there's not sufficient liquid  
8 or moisture content to maintain a growth  
9 environment of microbial populations?

10 A. That's correct.

11 Q. Okay. Do you know anything about the  
12 liquid or moisture content inside of the  
13 Bair Hugger?

14 A. Do I know?

15 Q. Hmm hmm.

16 A. All I know is that it has no liquid.

17 Q. Okay. Let's talk about the Bair Hugger  
18 gets used during the day, the surgery goes on, it's  
19 blowing air, and then it gets turned off; right?

20 A. Right.

21 Q. And then it gets left overnight.

22 A. Right.

23 Q. The air inside that Bair Hugger, do you  
24 know how humid it is?

25 A. I don't know that. I do not know that.



1 Q. Okay.

2 A. Do you?

3 Q. Page 26, let's talk a little bit about  
4 that Kellam study. So this is going to go back to  
5 that nurse. We have that nurse who did a  
6 literature review, remember?

7 A. Yeah, Kellam.

8 Q. Okay. So before I go into this one --  
9 this is a 2013 study -- do you remember we talked  
10 about 2017, the Oguz study? Do you remember that  
11 study?

12 A. Yeah.

13 Q. Do you remember where the authors made  
14 the recommendation that a large-scale clinical  
15 trial needed to be done?

16 A. Yeah.

17 Q. Okay. Let's look at what Kellam says.  
18 And let's see if this is quoted on here. I believe  
19 it is. I'll try to get you where I'm talking  
20 about. All right, there we go.

21 Towards the -- on 26, towards the  
22 bottom of the last full paragraph.

23 A. You're looking at my --

24 Q. At your report, at 26. Correct.

25 A. 26, yeah.

1 Q. Towards the last couple of sentences --

2 A. Right.

3 Q. In fact this may be the last whole  
4 sentence of Kellam's conclusion.

5 A. Right.

6 Q. Which is:

7 "Given the efficacy of these  
8 devices in preventing inadvertent  
9 perioperative hypothermia,  
10 practitioners should continue to  
11 use and clean forced-air warming  
12 systems according to the  
13 manufacturer's instructions until  
14 large" --

15 Excuse me.

16 -- "... until well conducted,  
17 large-scale trials can further  
18 examine the issue."

19 Correct?

20 A. That's a quote.

21 Q. Right. That's what Ms. Kellam said;  
22 right?

23 A. Right.

24 Q. The nurse that you thought was very  
25 credible?

1 A. Right.

2 Q. Okay. That was four years ago; correct?

3 A. Yeah.

4 Q. You have a date in front of you, don't  
5 you?

6 A. Yeah. It's right here.

7 Q. Four years ago?

8 A. Yeah.

9 Q. Are you aware if there's ever been in  
10 that time period a large-scale trial to examine  
11 this issue?

12 A. I'm not aware of it.

13 Q. Okay.

14 A. Do you?

15 Q. Yeah.

16 MR. BANKSTON: Go ahead and --  
17 let's see. Number 6.

18 MR. ASSAAD: Do you need 6?

19 MR. BANKSTON: Yeah, I need 6 right  
20 now.

21 BY MR. BANKSTON

22 Q. Sir, I understand that you haven't seen  
23 3M internal documents in this case?

24 A. That's correct.

25 Q. And I know this isn't something that you

1       relied on?

2               A.     Correct.

3               Q.     And I know what I'm about to show you,  
4       you have no idea what it is?

5               A.     Correct.

6               Q.     Okay. But I want to ask you some  
7       semi-hypothetical questions about some things that  
8       I've seen in 3M documents, okay, and see if you  
9       have any expertise on these issues.

10              MR. GORDON:            I just want to make  
11       sure it's clear, he previously testified he had  
12       seen test reports showing compliance with MERV 14.

13              MR. BANKSTON:          Where -- where was  
14       that? What did he see? Do you know what he saw?

15              MR. GORDON:            I don't remember  
16       what it was, but, I mean --

17              MR. BANKSTON:          Is it cited in the  
18       report somewhere?

19              MR. GORDON:            Yeah, there's some  
20       reference to it.

21              MR. BANKSTON:          Okay. Yeah, I think  
22       there is. There's some sort of -- is there a Bates  
23       No.? I don't know if there is, though.

24              MR. GORDON:            I don't know.

25              MR. BANKSTON:          Yeah, okay. So --

1 MR. GORDON: To my knowledge,  
2 Mark, that was the only three --

3 MR. BANKSTON: The only thing.  
4 Okay.

5 BY MR. BANKSTON

6 Q. So, again, I know you didn't review  
7 this. And, again, I'm not holding you to  
8 understanding everything you've seen in these  
9 documents. I'm just trying to figure out if I can  
10 pick out some expertise out of it. Okay.

11 MR. BANKSTON: So let's go ahead  
12 and mark this as Ho 6.

13 MR. GORDON: That will be 7.

14 COURT REPORTER: That will be 7.

15 MR. BANKSTON: Oh, we're on 7.  
16 Yeah, okay. Ho 7.

17 **EXHIBIT HO 7 - Internal document**  
18 **from 3M**

19 BY MR. BANKSTON

20 Q. All right, Mr. Ho. I have shown you a  
21 document here. It's an internal document from 3M  
22 that was produced to us during this litigation.  
23 And as you see here, there's some bullet points,  
24 what I believe has been described to me as sort of  
25 brainstorming. And there's some points on here

1 that I want to ask some terms about with you and  
2 see what you think about.

3 First of all, do you see the  
4 section that says "Overall Nightmares?"

5 A. I see that.

6 Q. Okay. And then there's a section that  
7 says "Hose-end filtration;" right?

8 A. Right.

9 Q. And it says "seamless mitigation of  
10 contamination concerns;" correct?

11 A. I see that.

12 Q. All right. Do you have any opinions  
13 about whether a filter on the hose end of the  
14 Bair Hugger is feasible and/or desirable?

15 MR. GORDON: Objection, lack of  
16 foundation and also vague.

17 A. Yeah, it's -- I can't answer a question  
18 like that because, as I say, I haven't examined a  
19 Bair Hugger.

20 BY MR. BANKSTON

21 Q. Okay.

22 A. I haven't measured characteristics from  
23 it.

24 Q. So from a device design standpoint, you  
25 don't have opinions to offer in this case; correct?

1 A. No.

2 Q. Okay. By the same token, I'm sure the  
3 answer is probably the same here, except it may be  
4 different because of some statements in your  
5 report. And I want to direct you to the last  
6 bullet point of that nightmare section.

7 A. Right.

8 Q. And it says: "Using HEPA filter."

9 A. Right.

10 Q. Now, I do believe you do have the  
11 opinion that a HEPA filter is not needed?

12 A. That is echoed by Kowalski.

13 Q. Right.

14 A. Yeah.

15 Q. So that was the Kowalski used to support  
16 your theory that HEPA is overkill on this device in  
17 this application?

18 A. Correct.

19 Q. Okay. Do you see the next section that  
20 says "Contamination/ABAD?"

21 A. I see the title, yeah.

22 Q. Okay. Have you ever heard the term  
23 "ABAD," the acronym ABAD?

24 A. What does it mean?

25 Q. Oh, it's Augustine biomedical and

1 design. It's the competitor.

2 A. Okay.

3 Q. Okay. Do you see where it says:  
4 "Recall of units for contamination issues?"

5 A. I see that.

6 Q. Do you have any opinions about what a  
7 device manufacturer should do in terms of recalls  
8 or anything like that?

9 A. What are they recalling? Are they  
10 recalling something else outside of the  
11 Bair Hugger?

12 Q. No, this is a discussion of the  
13 Bair Hugger, sir. I'm not asking you if they  
14 should or shouldn't recall the Bair Hugger or  
15 anything like that. What I'm trying to understand  
16 is just narrow down what your topics are. You're  
17 not going to be testifying about when a company  
18 should or should not recall a product?

19 A. Right.

20 Q. Okay. The next --

21 MR. GORDON: Foundation  
22 objection, but you -- I know you --

23 MR. BANKSTON: Yeah. I cleared it  
24 up. Exactly. That was the point of my question,  
25 was to establish no foundation.



1 BY MR. BANKSTON

2 Q. The next bullet point I want to ask you  
3 about is do you see the one that says: "Definitive  
4 study showing FAW as source of SSI?"

5 A. I see that.

6 Q. Okay. So in your mind now, you would  
7 agree with me there is not currently a definitive  
8 study that conclusively proves that forced-air  
9 warming causes infections? That doesn't exist  
10 right now?

11 A. Clarify --

12 Q. One more time. I'll say it one more  
13 time.

14 A. Yeah.

15 Q. You would agree with me that currently  
16 there does not exist a definitive study that  
17 conclusively establishes that forced-air warming  
18 causes infections? That doesn't exist?

19 A. It does not exist. Nothing shows that  
20 it causes infections.

21 Q. In fact we've seen repeated urgings by  
22 researchers that such studies needed to be  
23 conducted?

24 A. Right.

25 Q. Okay. Do you see then later on it says:

1 "Someone does a real study on FAW & contamination;"  
2 correct?

3 A. I see that.

4 Q. Would you agree with me that nobody's  
5 really done a real study on forced-air warming and  
6 contamination yet?

7 MR. GORDON: I object to the form  
8 of the question, lack of foundation, assumes facts  
9 not in evidence.

10 A. Why do you say that?

11 BY MR. BANKSTON

12 Q. I'm asking you if you agree.

13 A. If I agree nobody has done a study?

14 Q. Done a real study on forced-air warming  
15 and contamination, yes, sir. Do you agree with  
16 that statement?

17 A. I can't comment on that because it's --  
18 I don't know what the implications are. I can't  
19 comment on it.

20 Q. All right. Assume for me in a moment in  
21 a hypothetical this document, which talks about  
22 overall nightmares and contamination and ABAD --

23 A. Yeah.

24 Q. -- assume for me for a moment --

25 A. Yeah.

1 Q. -- that this statement, someone does a  
2 real study on forced-air warming and contamination,  
3 assume with me for a moment that that means the  
4 company is worried about that, is that problematic  
5 to you?

6 MR. GORDON: I object --

7 BY MR. BANKSTON

8 Q. Would that be problematic to you?

9 MR. GORDON: I object to the form  
10 of the question, lack of foundation.

11 A. That would be a stretch, isn't it?

12 BY MR. BANKSTON

13 Q. What's that?

14 A. That would be a stretch to say that.

15 Q. It would be very strange, wouldn't you  
16 agree, if the company wanted to avoid a real study  
17 on forced-air warming and contamination?

18 A. I can't -- I can't say you can make that  
19 statement at all.

20 Q. Okay. Like let's -- just -- just from a  
21 hypothetical, away from this document standpoint,  
22 would you agree with me that if scientific  
23 literature is urging scientific study on a product  
24 and a manufacturer intentionally seeks to avoid  
25 that, that's not necessarily a good thing, is it?

1 A. Oh, I don't know.

2 Q. Okay.

3 A. It's just --

4 Q. You're not going to have any opinions  
5 about that?

6 A. Yeah. No.

7 Q. I also wonder, in addition to the  
8 published research that you cited, were you aware  
9 that multiple experts -- multiple consultants  
10 retained by the company had advised them also to do  
11 bacterial sampling studies?

12 MR. GORDON: I object to the form  
13 of the question, lack of foundation, assumes facts  
14 not in evidence.

15 A. Am I aware of it?

16 BY MR. BANKSTON

17 Q. Yeah. Did you hear about that?

18 A. No.

19 Q. Okay. Were you aware that 3M's medical  
20 director testified in this case that there had been  
21 a decision made at a high level not to do clinical  
22 research on this topic?

23 A. I wouldn't know that.

24 MR. GORDON: I object to the form  
25 of the question, it assumes facts not in evidence,

1 in fact contrary to the evidence.

2 A. I wouldn't know that.

3 MR. BANKSTON: Okay. Let's take a  
4 little break here.

5 THE VIDEOGRAPHER: We are going off the  
6 record. The time is 2:53 p.m.

7 (ADJOURNMENT)

8 THE VIDEOGRAPHER: We are back on  
9 record and the time is 3:14 p.m.

10 BY MR. BANKSTON

11 Q. All right. I have now handed you what  
12 has now been marked as --

13 Have we marked that yet? No, we  
14 need to stop and mark it. All right.

15 **EXHIBIT H0 8 - Study of a joint**  
16 **project between the Iowa State**  
17 **University and the China**  
18 **Agricultural University**

19 BY MR. BANKSTON

20 Q. All right. I have handed you what's  
21 been marked as Ho Exhibit 9 (sic). This is a study  
22 of a joint project between Iowa State University  
23 and the China Agricultural University. Do you see  
24 that?

25 A. Right.

1 Q. It's a study from 2013. The title is  
2 the "Concentrations and Size Distributions of  
3 Airborne Particulate Matter and Bacteria in an  
4 Experimental Aviary Laying-Hen Chamber;" correct?

5 A. Correct.

6 Q. Okay. So basically what these  
7 scientists did is examined an area that produces  
8 natural biological presentation: a chicken coop?

9 A. Right.

10 Q. And you would expect to find bacteria in  
11 a chicken coop; correct?

12 A. Right. Right. Right.

13 Q. There's biological matter that chickens  
14 are defecating in the coop itself. So that  
15 produces -- when we talk about the popcorn makers,  
16 the chickens themselves are popcorn makers inside  
17 this; correct?

18 A. Right.

19 Q. Okay. Now, there's two things I want to  
20 talk to you about in this study, and the first one  
21 was regarding the size of airborne bacteria. And  
22 you'll notice that one of the findings was that the  
23 majority, in fact 95 percent, of the particles were  
24 carried by particles larger than 3 microns;  
25 correct?

1 A. Right.

2 Q. That's not surprising to you; right?

3 A. Hmm hmm.

4 Q. And by extension that means that in this  
5 study, when they did airborne sampling, they found  
6 that 5 percent of the free-floating bacterial  
7 particles were smaller than 3 microns; correct?

8 A. That's what they claim.

9 Q. Correct. Okay.

10 A. Yeah.

11 Q. Now, they in this study used a  
12 bioaerosol impactor. You're familiar with that  
13 device, I would assume?

14 A. Am I allowed to comment on the material  
15 after you ask questions?

16 Q. Yeah, we'll get -- we'll get on there.

17 A. Yeah.

18 Q. Absolutely.

19 A. Yeah.

20 Q. I'm just going down the steps --

21 A. Right.

22 Q. -- of what this study is. They used a  
23 bioaerosol impactor.

24 A. Right.

25 Q. Correct?

1 A. Right.

2 Q. Okay. Have you used that device before?

3 A. Yes.

4 Q. In general or have you actually used --

5 A. It's called an Anderson impactor.

6 Q. An Anderson impactor. Okay. That's  
7 something you have experience with. Okay.

8 Now, their claim is that they  
9 sampled airborne microorganisms in several size  
10 categories; correct?

11 A. That's the feature of the Anderson  
12 impactor.

13 Q. Okay, great. So, in other words, the  
14 size distributions, the different sets of sizes,  
15 and in this case I'm going to list them off really  
16 quick.

17 A. Don't do that because I already know  
18 what they are.

19 Q. You know what they are. So my question  
20 was --

21 A. Yeah.

22 Q. -- the size distribution sets --

23 A. Right.

24 Q. -- those are inherent to the impactor  
25 itself?



1 A. Yeah.

2 Q. It always measures in those sets?

3 A. Correct.

4 Q. Okay. Now, some of those size  
5 measurements are submicron sized; correct?

6 A. Well, the Anderson is really not  
7 designed for measuring submicron size.

8 Q. Okay.

9 A. Yeah.

10 Q. Then there's another size that's about 1  
11 to 2 microns?

12 A. Yeah.

13 Q. Right. And that was the size that we  
14 had talked about that, before in your report, that  
15 biological aerosols can present as 1 to 2 micron  
16 sizes?

17 A. Right.

18 Q. Okay. So --

19 MR. GORDON: It's actually 1 to  
20 2.5.

21 BY MR. BANKSTON

22 Q. Sure. Sure. And so they could even go  
23 up a little bit more. And in fact what we're  
24 seeing here is that when they start to really  
25 cluster and accumulate, they can be considerably

1 bigger. They can go to 3 to 4 or 4 to 7 or even  
2 greater than 7?

3 A. Right.

4 Q. Right. You would agree with me that in  
5 a typical environment that has airborne bacteria in  
6 it, there's a good chance you're going to find  
7 biological particles that are 10 microns or  
8 greater?

9 A. Correct.

10 Q. Okay. So far, in terms of those things  
11 that the study is saying, you don't have any  
12 problem with any of that; right?

13 A. As I've said, maybe I should get to it  
14 sooner as to what errors they would have made in  
15 coming to their data.

16 Q. Okay. Now, when we talk about the  
17 errors that they made in coming to their data --

18 A. Yeah.

19 Q. -- let's separate out their different  
20 data. And one of the data points that they espouse  
21 here --

22 A. Yeah.

23 Q. -- is that they collected and measured  
24 concentrations of airborne bacteria by size?  
25 That's one of the things they say they did?

1 A. Right. Yeah.

2 Q. Can you tell me what, if any, you think  
3 there are errors in the methods -- methodology on  
4 which they measured the size of airborne bacteria?

5 A. Number 1, they did all right when they  
6 were using the APS to measure size distribution and  
7 they did all right even to convert it into a mass  
8 concentration. Do you follow?

9 Q. Hmm hmm.

10 A. Okay. Where they actually make a  
11 mistake was to use the Anderson impactor -- instead  
12 of using a traditional agar plate on each stage,  
13 they did not. They put liquid on each stage and  
14 took the liquid and broke it up to measure  
15 individual organisms. That's not what an Anderson  
16 is designed to do.

17 Q. Okay. So how would that affect the  
18 results? Can you explain how that would maybe skew  
19 them, or whatever it did?

20 A. I -- I don't really know how -- how it  
21 would have skewed the data, but the actual design  
22 of the instrument is for you to count how many  
23 colonies are -- are impacted on the agar plate and  
24 count actual colonies and then it's actually a  
25 sizing instrument. It sizes different stages. So

1 the top stage will be one size, the second stage  
2 and so on. And that is what you interpret by  
3 aerosol in different size groups, giving you  
4 certain numbers. And you can interpret the  
5 probable numbers from how many positive hits you  
6 got.

7 Q. Okay.

8 A. And you go to a standard table, it is a  
9 statistical thing, you're just guessing now how  
10 many positive Os. You go down the table and you  
11 say, oh, this would be what concentration of  
12 particles there would be. Again, it's an  
13 estimation.

14 Q. Okay.

15 A. It wasn't designed for you to impact  
16 particles onto a liquid surface and then mash it up  
17 and then measure how many organisms there are in  
18 the liquid.

19 Q. Okay.

20 A. And that's where they fall -- fell  
21 apart.

22 Q. When they were measuring the number of  
23 organisms you're saying?

24 A. Right.

25 Q. Okay.

1 A. Yeah.

2 Q. Now, when it comes to size  
3 distribution --

4 A. Yeah, there's nothing wrong with the  
5 size distribution.

6 Q. That's what I was actually going to ask.

7 A. With the different stages of the  
8 Anderson, it does what it's supposed to do.

9 Q. In other words, it produced results in  
10 terms of size distribution that you would have  
11 expected?

12 A. Yeah. If he actually -- if they  
13 actually went in and talk about the size  
14 distribution from the Anderson, fine, perfect.  
15 That's the way you do it.

16 Q. It's what they did after that that you  
17 have a problem with?

18 A. Right.

19 Q. I figured that might be the case. What  
20 I want to talk about first, though, is when they  
21 say that 5 percent of biological presentation can  
22 be smaller than 3 microns and that 95 percent of  
23 biological presentation is over 3 microns, that's  
24 not terribly surprising?

25 A. Yeah, that's fine.

1 Q. Okay. One of the things that I think  
2 you're going to disagree with, and I would like you  
3 to -- if you look at the bottoms of the pages, you  
4 can see on the bottom right-hand corner there are  
5 some numbers. Can you go to 1499.

6 A. Yeah, I'm on 99.

7 Q. Okay.

8 A. Yeah.

9 Q. And you see this is where they talk  
10 about the relationship of airborne particle mass  
11 and bacteria; correct?

12 A. Yeah.

13 Q. We had talked earlier in this deposition  
14 about several studies which you disagreed with that  
15 found a relationship, a correlation, between the  
16 existence of particles and the existence of biomass  
17 in the air; right?

18 A. Right.

19 Q. Okay. This study here under the section  
20 that we're reading, and the section that's  
21 highlighted, reads: "The airborne [bacterial]  
22 concentration...", CFU metres cubed, "...and..."  
23 particle mass concentration -- or particulate mass  
24 concentration maybe, which is measured by  
25 milligrams to metres cubed, "...followed linear

1 relationships ... for all ranges. No significant  
2 differences in such relationships were detected  
3 among the subranges."

4 This conclusion here, is this the  
5 conclusion that you contend is suspect because of  
6 their use -- the way they use the machine?

7 A. If I were a reviewer, I would -- I would  
8 tell them that this statement cannot be made.

9 Q. Okay.

10 A. Because of the reasons I just gave you.

11 Q. Okay. So, according to you, this is --  
12 these sets of authors, like the other studies that  
13 we've seen --

14 A. Yeah.

15 Q. -- these are other ones where you're  
16 saying they don't know what they're doing?

17 A. They just make an error in assumption.

18 Q. Right. Okay. So like Darouiche, like  
19 Raval, like Stocks, like Mr. Olmsted, these authors  
20 you also are saying are disagreeing with you  
21 incorrectly?

22 MR. GORDON: Well, he didn't read  
23 Olmsted or comment on Olmsted.

24 BY MR. BANKSTON

25 Q. Well, I mean, with respect, do you

1 remember Mr. Olmsted's email which described the  
2 Stocks paper as fairly remarkable and all of that?

3 MR. GORDON: I'm sorry.

4 A. That's an opinion, isn't it?

5 BY MR. BANKSTON

6 Q. Sure. Yeah. And you disagree with that  
7 opinion?

8 A. Yeah.

9 Q. Okay. This is another one of those  
10 kinds of papers, but this one, your methodological  
11 problem with it is it involves around the way in  
12 which the impactor was used --

13 A. Right.

14 Q. -- is that correct?

15 A. Right.

16 Q. Okay. I want to hand you again -- this  
17 was previously marked as Exhibit 27. This is the  
18 Gregory Stocks and his team's research. And I  
19 think --

20 A. We've seen this before?

21 Q. We talked about this in the deposition  
22 earlier.

23 A. Right.

24 Q. And the reason I'm handing it to you  
25 again --



1 A. Yeah.

2 Q. -- is because I believe when we were  
3 first talking about it we really didn't know if we  
4 were going to have ample time to really go in depth  
5 on this. And it's my understanding that you have  
6 several methodological criticisms of this paper.  
7 Can you let me know what those are?

8 A. Yeah. It's the way they treated the  
9 data. They got the raw data, and it would appear  
10 by the description they didn't -- the raw data  
11 didn't fit the expectations. So they did a square  
12 root transform of -- of the data set. That's  
13 unconventional. I'm not saying outright wrong, but  
14 unconventional.

15 Q. Okay.

16 A. If one were to perform data transform  
17 for biological numbers -- because biological  
18 numbers are traditionally big numbers, like  
19 100,000, a million -- you do a log transform. Are  
20 you familiar with log transform?

21 Q. Hmm hmm.

22 A. You log base ten. So that way you  
23 always bring those numbers back into what we call a  
24 normal distribution. And it is very important to  
25 understand normal distributions because how you

1 treat normally or not normally distributed data  
2 could -- could distort what you see.

3 And so for reasons unknown, they  
4 chose to square root the raw data so that things  
5 would get squeezed together.

6 Q. Okay.

7 A. And -- and from so doing they managed to  
8 squeeze things together rather than stretch out  
9 that far. And now they think that, okay, we can  
10 fit everything within Figure 1.

11 Q. And you're saying, in other words, there  
12 was a manipulation in how the data was presented to  
13 create a false impression?

14 A. "Manipulation" is a strong term --

15 Q. Okay.

16 A. -- because data transform is a  
17 legitimate thing to do.

18 Q. Okay, sure.

19 A. Everybody does that. But you have to  
20 respect the way that data transform is done.

21 Q. Would you say it's more appropriate to  
22 say that you have concerns because the data  
23 transfer --

24 A. Yeah.

25 Q. -- was unconventional?

1 A. The data transform was unconventional.

2 Q. Okay.

3 A. In my experience, I haven't come across  
4 anybody doing a square root of biological data.

5 Q. Okay. So that's something that you're  
6 not familiar with. It seems to be unconventional  
7 in the kind of studies that you know about?

8 A. Right.

9 Q. You can't tell me that that's  
10 necessarily an error; correct?

11 A. It's -- to be polite you don't want to  
12 say it's an error, but it actually shows up on the  
13 final results.

14 Q. Okay.

15 A. Figure 1.

16 Q. Okay.

17 A. You notice that in Figure 1 it  
18 essentially had all scatter points within the  
19 graph, but, as usual, when you supply the data into  
20 any piece of software, it will always plot a line,  
21 best-fit line, for you.

22 Q. Okay.

23 A. And look at, again, the 95 percent  
24 confidence level is way out here. And that tells  
25 you right away that it's mostly random observations

1 that you're seeing.

2 Q. Okay. Is that a basic -- do you think  
3 that's a fair summary of what your basic  
4 methodological problems with this study are?

5 A. Yeah.

6 Q. Okay. Let's talk a little bit -- I kind  
7 of want to conclude by understanding sort of your  
8 core opinions, and I want to make sure I understand  
9 them now that we've talked for a good amount of  
10 time. And one of those is you hold the opinion  
11 that the Bair Hugger is reasonably safe for the  
12 purpose that it's being used?

13 A. Again, I didn't say that.

14 Q. Okay.

15 A. I simply say that there is no good  
16 experimental data that suggests that there is  
17 anything wrong with it.

18 Q. Well, I guess really what I'm asking is  
19 are you going to put your credentials on the line,  
20 your sort of willful force and weight of your  
21 expertise --

22 A. Yeah.

23 Q. -- to tell this jury --

24 A. Right.

25 Q. -- "I assure you this product is safe?"

1 Are you going to be saying that?

2 A. I can say that.

3 Q. Okay. In other words, to make an  
4 assurance in this case that you believe with  
5 reasonable medical certainty or reasonable  
6 scientific certainty, you believe that you can  
7 assure the jury this product is safe?

8 A. I can.

9 Q. Okay. With respect to the filter, you  
10 also are going to be claiming that the filter is  
11 adequate for its application?

12 A. I can -- I can say that.

13 Q. Okay. And I think, just to summarize a  
14 couple of other of your major opinions, one of the  
15 other things we discussed very heavily today is  
16 your belief that particles are not a proxy or a  
17 surrogate for bioburden?

18 A. That's correct.

19 Q. Okay. And then another sort of core end  
20 of your opinions is we discussed the number of  
21 studies which you either find helpful or of bad  
22 quality. And so a generous portion of your  
23 opinions is an evaluation and judgment call on the  
24 quality of the literature around the Bair Hugger?

25 MR. GORDON: I object to the form

1 of the question.

2 BY MR. BANKSTON

3 Q. Is that correct?

4 A. Is that a question?

5 Q. Yes, that is a question. Your  
6 opinion --

7 A. Yeah.

8 Q. -- a significant apportion of your  
9 opinions in this case --

10 A. Yeah.

11 Q. -- revolve around an evaluation and a  
12 judgment on the quality of the scientific  
13 literature relating to the Bair Hugger?

14 A. Correct.

15 Q. Okay. And that means not just -- for  
16 instance, you know there's been biological sampling  
17 testing done with the Bair Hugger? That's one of  
18 the studies that you would look at?

19 A. There were some, yeah.

20 Q. Okay. And that's something you have  
21 direct experience in doing?

22 A. Right.

23 Q. Okay. You understand that there are  
24 other studies that are clinical in nature; correct?  
25 They involve patient outcomes rather than

1 biological sampling.

2 A. Right.

3 Q. Okay. You understand that there are  
4 other experiments going on with the Bair Hugger  
5 that involve fluid dynamics and the movement of  
6 air?

7 A. There are, yeah.

8 Q. Okay. And you feel qualified to dispute  
9 the findings of those studies as well?

10 A. Yes, and I don't think you want to hear  
11 my opinion either.

12 Q. Oh, no, you might be mistaken there. I  
13 didn't actually think you had an opinion regarding  
14 the disturbance of air, and we may have to work  
15 that out later, but do you feel qualified to  
16 discuss fluid dynamics?

17 A. No.

18 Q. Okay. Now, I've covered some of the  
19 main core opinions, and I'm not going to try to  
20 hold you to this, I'm not meaning this to like box  
21 you out, but do you think in my summary there, have  
22 I missed a core proposition? Is there a really  
23 important proposition in your report that I didn't  
24 just summarize? Like is there some major theme  
25 that I'm missing?

1 A. You touched on everything.

2 Q. Okay. In coming to deliver those  
3 opinions, can you briefly describe to me the  
4 methodology that you used to come to those  
5 opinions?

6 A. Come again.

7 Q. Scientists, people who deliver  
8 scientific opinions --

9 A. Right.

10 Q. -- must apply a methodology to reach  
11 those opinions; correct?

12 A. Right.

13 Q. Can you tell me, in reaching the  
14 opinions that you delivered in this case, in your  
15 report, can you describe for the jury what your  
16 methodology consists of?

17 A. Well, you look at the way the  
18 experiments were done and you look at the way the  
19 conclusions were drawn and you get the impression  
20 that in all the studies very few of them were  
21 credible. In fact most of them were outright  
22 wrong. And so when you -- and you can also go to  
23 look at other publications in the field, and we  
24 found that a few of the claims were supported by  
25 open literature publications.



1 Q. Would it be correct then to say -- and I  
2 understand those are your findings.

3 A. Yeah.

4 Q. Would it be correct to say that the  
5 methodology that you employed in this case was  
6 reading scientific literature and then coming to  
7 your own personal opinion about whether that  
8 scientific literature was credible or not?

9 A. Well, that was the amount of time given  
10 to me to perform the task.

11 Q. Okay.

12 A. So it would have to be yes. But that's  
13 the job --

14 Q. That's -- that's the sum of the work  
15 you've done in this --

16 A. That's the job at hand.

17 Q. Right. That's the sum of the work  
18 you've done in this case?

19 A. Right.

20 Q. Let's say that I am a person who wants  
21 to figure out if you're right or wrong. I want to  
22 know is Dr. Ho correct about this stuff. Is he  
23 right about his opinions on this literature?

24 A. Yeah.

25 Q. How do I figure that out? How can I

1 test if you're right?

2 A. Very simple. There are probably half a  
3 dozen to ten people around the world who have done  
4 by aerosol measurement like -- like we did. I say  
5 "we" meaning the community. And we spent, as I've  
6 said, 30 years at it. So you can probably go pick  
7 out my colleagues and check each one -- each one  
8 out and say, "Okay, do you agree with this opinion  
9 or based on your experience or what you have done  
10 would this be correct?"

11 Q. All right. So the way to test your  
12 opinion --

13 A. Yeah.

14 Q. -- and the truth or scientific validity  
15 of it or not --

16 A. Yeah.

17 Q. -- is to go take your opinion and give  
18 it to another expert?

19 A. Yeah. Remember now you are measuring  
20 biological aerosols in all areas. Like natural  
21 resources, indoors, outdoors, chamber studies. You  
22 have to have experience in all those areas so that  
23 it allows you to form the opinion as to what is  
24 credible and what isn't. Is that fair?

25 Q. Yeah, sure.

1 A. Yeah.

2 Q. In other words, your opinions today are  
3 not the result of testing or specific research that  
4 you've done or published research you've done in  
5 the past, it's more of a product of your general  
6 expertise in the area?

7 A. Well, you -- you would have done  
8 measurements, you would have done studies, you  
9 would have published on it. And then all -- all  
10 the experience that the person has would be  
11 distilled into looking at what is being offered,  
12 and that's how you make a judgment.

13 Q. All right. You understand that in  
14 certain scientific endeavors you might have  
15 something like a rate of error. Like certain types  
16 of studies have a rate of error. Are you familiar  
17 with that before?

18 A. Hmm hmm.

19 Q. When you're giving opinions to me  
20 today --

21 A. Yeah.

22 Q. -- in your report --

23 A. Yeah.

24 Q. -- do you have any idea what the rate of  
25 error on giving those kind of opinions might be, or

1 how I could figure that out?

2 A. Well, I think you are being too clinical  
3 in wishing for rate of error in numeric type  
4 quotation, but you could find ten of my colleagues,  
5 as I mentioned --

6 Q. Hmm hmm.

7 A. -- and find out how many of them  
8 disagree with what I said. You probably could find  
9 one out of the ten that might say, "Oh, I don't  
10 think I can agree with him 100 percent." Nothing  
11 in life is sure; right?

12 Q. Sure.

13 A. So I'll be very happy if I -- if I get  
14 nine people going along with me.

15 Q. Okay. Another thing I wanted to ask, if  
16 I wanted to see if your opinions were correct or  
17 not, there are tests I could do for certain of your  
18 opinions; right?

19 A. Hmm hmm.

20 Q. Like we could set up certain tests that  
21 would address some of these issues?

22 A. Yeah.

23 Q. Okay. One application of the technology  
24 that you've developed for 30 years, one application  
25 could be bacterial sampling in an orthopedic

1 implant surgery using different methods of patient  
2 warming to study the risk of peri-prosthetic joint  
3 infection? That's one application you could make  
4 of your technology?

5 MR. GORDON: I'm going to object  
6 to the form.

7 A. Yeah, it's a bit of a stretch to say  
8 that.

9 BY MR. BANKSTON

10 Q. Okay. What about just generically?  
11 Could your application of your technology, could  
12 you take it into an operating room and do bacterial  
13 sampling?

14 A. Well, I did cite one of our -- our  
15 papers in which we simulated the environment of an  
16 operating room using a wind tunnel.

17 Q. Okay.

18 A. So if you read that paper, you would get  
19 the impression as how we would approach the  
20 experiment --

21 Q. Hmm hmm.

22 A. -- how we analyzed the data, and how we  
23 correlate the biological numbers with particle  
24 numbers --

25 Q. Hmm hmm.

1           A.    -- and actually submitted that to proper  
2   statistical analysis.

3           Q.    Okay. So you could do that same process  
4   in an operating room using a -- using a dual test?  
5   You could test with the Bair Hugger in the room and  
6   you could test using another warming technology,  
7   and you could perform bacterial sampling? That's  
8   something you're capable of doing?

9           A.    If one were to pursue that, it could be  
10   done.

11          Q.    In fact you're one of the very few  
12   people in the world who could do that?

13          A.    That might have been true.

14          Q.    And then you've been hired in this case,  
15   but you have not done that in this case?

16          A.    That wasn't my mandate.

17          MR. BANKSTON:           Okay. I think we  
18   can let you get on your plane. Hopefully I'll be  
19   able to make mine too.

20          A.    Thank you very much.

21          MR. GORDON:           I want to ask just  
22   about two quick questions.

23          MR. BANKSTON:           Oh, and I was going  
24   to say, if you wanted to, I know -- I think --  
25   isn't there a time when Dr. Ho has to be in

1 Minnesota coming up pretty soon? If you wanted to  
2 do an hour with him or something like that, I  
3 wouldn't be opposed to that.

4 MR. GORDON: I don't --

5 MR. BANKSTON: Okay. If you don't  
6 need it, go for what you got, but...

7 MR. GORDON: You're right,  
8 though, he's going to be teaching his course at the  
9 University of Minnesota --

10 MR. BANKSTON: Yeah. I was just  
11 thinking in --

12 MR. GORDON: -- in August?

13 A. Yeah. The third week in August.

14 MR. BANKSTON: I would be -- I  
15 would be happy to have somebody attend. I wouldn't  
16 mind that, if we needed to do it to get everybody  
17 to their flight. But if you just have a few  
18 questions, I think we'll be all right.

19 MR. GORDON: You know what? I'm  
20 going to take you up on that.

21 MR. BANKSTON: Take me up on my  
22 offer? Yeah.

23 MR. GORDON: Yeah, I think that's  
24 a good offer. So we'll continue this until -- if  
25 we need to.

1 A. What was the offer?

2 MR. BANKSTON: The offer is maybe  
3 when you're in Minnesota --

4 A. Yeah.

5 MR. BANKSTON: -- later this  
6 year --

7 A. Yeah.

8 MR. BANKSTON: -- we'll spend  
9 another hour in a room together.

10 A. Oh, you'll fly --

11 MR. BANKSTON: It might not be  
12 me --

13 A. Yeah.

14 MR. BANKSTON: -- doing the -- but  
15 it will be probably Corey asking you a couple of  
16 more questions, something like that.

17 A. That would be good if some of you sign  
18 up for the course.

19 MR. BANKSTON: We could do that.

20 MR. GORDON: Actually, you know  
21 what, this really shouldn't take --

22 MR. BANKSTON: It's short? Go for  
23 it.

24 MR. GORDON: -- it really  
25 shouldn't take --



1 MR. BANKSTON: All right. Go for  
2 it.

3 MR. GORDON: -- more than five  
4 minutes.

5 BY MR. GORDON

6 Q. I want to -- take a look at Exhibit 360.

7 A. 6-5?

8 MR. GORDON: Did you take back  
9 what was formerly marked as Exhibit 360?

10 MR. BANKSTON: Yes, I have a copy.

11 MR. GORDON: If you don't mind.

12 MR. BANKSTON: Yeah. There you go.

13 BY MR. GORDON

14 Q. You looked at this earlier, I think it  
15 was actually this morning. This was a 3M test  
16 report. If you could turn to page 5 of 12.

17 A. 5 of 12, yeah.

18 Q. Okay. And that chart there, that MERV  
19 parameters chart, do you see that Table 1?

20 A. Yeah.

21 Q. Have you previously reviewed any chart  
22 that's set out MERV specifications? Like would --  
23 I honestly don't remember. Is that same chart in  
24 Kowalski?

25 A. Yeah. I saw the Kowalski chart, yeah.

1 Q. Okay.

2 A. Yeah.

3 Q. If you look under MERV 14 --

4 A. Right.

5 Q. -- what's the percentage efficiency  
6 required for particles of 0.3 to 1.0 microns?

7 A. It says 75 here.

8 Q. And what's that numeric symbol after 75?

9 A. It's a little fuzzy. Is that  
10 efficiency?

11 Q. Right. But is it greater than or less  
12 than or --

13 A. Oh, greater than -- lesser than or equal  
14 to.

15 Q. Okay. And for -- so the efficiency  
16 should be greater than or less than 75 percent?

17 A. Right.

18 Q. No, that is the question.

19 A. Lesser than or equal to.

20 Q. The efficiency -- the efficiency is on  
21 the right-hand side of the equation, so that's why  
22 I'm -- is that saying --

23 MR. GORDON: Thank you for not  
24 objecting to my --

25 MR. BANKSTON: I know. I'm giving

1 you a little latitude.

2 MR. GORDON: Yeah, you are.

3 MR. BANKSTON: I'm not going to do  
4 too much more.

5 BY MR. GORDON

6 Q. For it to be MERV 14 it has to be  
7 greater than or equal to 75 percent efficiency;  
8 correct?

9 MR. BANKSTON: Objection, leading  
10 to --

11 A. No, I think that's a lesser --

12 MR. BANKSTON: You're lucky. I let  
13 you have that one, Corey.

14 MR. GORDON: I just wanted to ask  
15 him.

16 MR. BANKSTON: I know. I know.

17 BY MR. GORDON

18 Q. Okay. I'm sorry?

19 A. It's a lesser sign.

20 Q. The 75 is less than the efficiency;  
21 right?

22 A. Okay.

23 Q. So the efficiency -- the relationship of  
24 efficiency to the 75 would be what?

25 A. I'm not sure what you're looking for.

1 Q. Greater or equal or lesser? In other  
2 words, we've got the 75 --

3 A. Yeah.

4 Q. -- then a symbol, and then efficiency?

5 A. Lesser than or equal to.

6 Q. Efficiency should be lesser than or  
7 equal to 75 or greater than or equal to 75?

8 A. It looks like it's equal to or less  
9 than.

10 Q. Well, so is it your understanding that  
11 if a MERV filter doesn't -- filters 0 percent of  
12 the particles in the size range, that that would be  
13 what this is calling for? Or does it need to  
14 filter more than 75 percent of the filter -- of the  
15 particles in the size range?

16 A. I think it looks like it's up to  
17 75 percent of the size range.

18 Q. Okay. Now, if you would look back to  
19 the page that you looked at before, which is page 8  
20 of 12. The same document. Turn to page 8 of 12.

21 A. Yeah.

22 Q. And in this -- oh, that wasn't the one  
23 we looked at. Yeah, I think it was. For particle  
24 size 0.3 to 1.0, what were the efficiency --  
25 efficiencies in those --

1 A. Average.

2 Q. -- four different tasks?

3 A. It's like 83.

4 Q. That was the first one. What about the  
5 second one?

6 A. 83, 82, 75, 76, 78.

7 Q. Oh, I'm sorry, you're looking -- are you  
8 looking at the average?

9 A. Yeah.

10 Q. I was looking at the printout. Okay.  
11 So were any of those numbers less than 75 percent?

12 A. No.

13 Q. Okay. Counsel asked you about your  
14 ability to do tests, microbiological tests, going  
15 into an operating room a couple of minutes ago. Do  
16 you remember that?

17 A. Right.

18 Q. What kind of equipment would that  
19 involve?

20 A. You mean what would be used to actually  
21 measure the biological particles in the room?

22 Q. Yes.

23 A. A slit sampler would be appropriate.

24 Q. Not the technology you developed for the  
25 Canadian defence forces?

1           A.    My instrument measures viable,  
2   potentially live particles in realtime.

3           Q.    Could that type of equipment be used in  
4   an operating room?

5           A.    Yeah, it could tell you if you -- in  
6   realtime if you have any live organisms floating  
7   around.

8           Q.    I have no idea what this equipment looks  
9   like. Is it bigger than a bread box? Is it --  
10   could it fill a room?

11          A.    It's not unlike the coffee -- the coffee  
12   urn, but twice -- twice the use.

13          Q.    Okay. So it's fairly small?

14          A.    Yeah. Yeah.

15          Q.    It's portable?

16          A.    Yeah, fairly small. The footprint is  
17   maybe one and a half times and the height is about  
18   one and a half times.

19          Q.    Okay. So if we were to ask you to do  
20   that kind of testing between now and trial, that's  
21   something you could do?

22          A.    Between now and trial? Yeah. Yeah, it  
23   could be done. Whereabouts would it be done?

24          Q.    I don't know. I'm just...

25          A.    Yeah.

1 Q. Mr. Bankston has planted the seed.

2 A. It could be done. Yeah.

3 MR. GORDON: I know we didn't  
4 have time to do that before, but maybe --

5 A. Now, bear in mind you want to -- you  
6 want to use that instrument in conjunction with a  
7 real live slit sampler to capture the live agents  
8 to correlate the two datasets.

9 Q. Okay.

10 A. Yeah.

11 MR. GORDON: Okay, thank you. I  
12 have nothing further.

13 MR. BANKSTON: All done. The only  
14 thing I would add at the end is I would request the  
15 witness read and sign.

16 MR. GORDON: Yes.

17 MR. BANKSTON: All right.

18 A. Are we done?

19 MR. BANKSTON: We are all finished.  
20 Off the record.

21 THE VIDEOGRAPHER: We are going off the  
22 record. The time is 3:47 p.m.

23 -----  
24 (Proceedings ended at 3:47 p.m.)

25 -----

1     Certificate of Transcript

2

3

4     I, the undersigned, hereby certify that the  
5     foregoing pages 1 to 390 are a complete and  
6     accurate transcript of the proceedings taken down  
7     by me in shorthand and transcribed from my  
8     shorthand notes to the best of my skill and  
9     ability.

10                     Dated at the City of Calgary,  
11     Province of Alberta, Canada, this 8th day of July,  
12     2017.

13

14

15

16

17                                     \_\_\_\_ "D. Gerbrandt" \_\_\_\_\_

18                                     D. Gerbrandt, CSR(A)

19                                     Official Court Reporter

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